

EMTIAZ GUIDE

Internal Medicine

Cases of internal medicine | clinic and emergency room

For House officers and GPs

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2nd Edition

VISIT...

LANZAROTE
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Hypertension

Definition

Arterial blood pressure above **140/90** mmHg in at least 2 measurements

لو مريض ضغطه عالى لأول مره ليس معناها انه مريض ضغط و لكى تشخصة انه مريض ... انظر الجدول التالى

قياس الضغط المسائى	قياس الضغط الصباحى	
.....		السبت
.....		الاثنين
.....		الاربعاء

لو هناك قياسين للضغط او اكثر اعلى من الطبيعى يوضع المريض تحت بند مريض ضغط عالى

Severity

	Systolic	Diastolic
Normal	Up to 140	Up to 90
Stage 1 (mild)	140 : 160	90 : 100
Stage 2 (moderate)	160 : 180	100 : 110
Stage 3 (sever)	More than 180	More than 110

هذه التقسيمة الغرض منها هو معرفة درجة خطورة الضغط و طريقة علاج كل درجة

المرحلة الاولى نبدأ العلاج بمجموعة واحدة فقط من مجموعات الضغط

المرحلة الثانية نبدأ العلاج بمجموعتين من مجموعات الضغط

المرحلة الثالثة نبدأ العلاج بثلاث مجموعات او اكثر من مجموعات الضغط

Essential hypertension

الضغط غير معلوم السبب ويمثل 95% من حالات الضغط العالى

Predisposing factors

Caffeine and Tea / Obesity / Salt and Smoking / Stress / Alcohol / Hereditary

Secondary hypertension

Renal causes

GN/Pyelonephritis/Diabetic nephropathy/Gout nephropathy/Renal artery stenosis

Endocrinal causes

Hyperthyroid/Hypothyroid/Hyperparathyroidism/Pheochromocytoma/Cushing/Conn's

Neurological causes

Increased intracranial tension/Medullary/Hypothalamic lesions

Drugs

Catecholamines/Corticosteroids/Cocaine/Cyclosporine/CCPs/Carbenoxolone Na

Others

Aortic coarctation/Toxemia of preg./PAN/PRV

In (hypertension + young age) you should think about

حالات الضغط العالي في السن الصغير يجب ان نضع هذه الحالات في أولويات التفكير

1. Renal artery stenosis → Ultrasound for Renal artery
2. Post streptococcal GN → Increased ESR CRP ASOT
3. Aortic Coarctation → X-Rays show notched ribs

Clinical picture

Asymptomatic

Headache suboccipital pulsating / early in the morning & subsiding during the day

Epistaxis

Chest pain

Dizziness / Nausea and Vomiting / Blurring of Vision

لماذا يجب ان نعالج حالات الضغط المرتفع ؟

Complications

CVS → Angina / MI / Atherosclerosis / Peripheral vascular disease / Heart failure

CNS → Atherosclerosis / TIA / Cerebral Hage / SAH / Hypertensive encephalopathy

Renal → Proteinuria / Hematuria / Nephrosclerosis / Renal failure

Retinopathy

Investigations

1. Na,K, Serum glucose
2. Cholesterol and TGs in obese
3. Urine analysis
4. Renal functions
5. US abdomen and pelvis
6. VMA to detect pheochromocytoma
7. Endocrinal investigations (e.g. TSH ,, Free T₃ and Free T₄)

طبعا بنطالب التحاليل على حسب تقييمك للحالة وعلى حسب الحالة الاكلينيكية للمريض

يعنى مثلا مريض بيتحرك كثير وعصبى وبيعرق كثير وبياكل كثير نطلبه تحاليل الغدة الدرقية

مريض ضغطه على وسكره على ووشه مدور ومنفخ نطلبه تحليل الكورتيزول الصباحى والمساءى وهكذا

Non pharmacological treatment

نصائح عامة هامة جدا جدا لكل مرضى الضغط العالى

- | | |
|---|--|
| 1. Decrease body weight | الاهتمام بتقليل الوزن ومتابعته بصفة مستمرة |
| 2. Regular physical activity | ممارسة رياضة المشى السريع لمدة نصف ساعة يوميا |
| 3. Stop Smoking | الامتناع عن التدخين تماما |
| 4. Stop Saturated fat, Cholesterol, Alcohol | الامتناع عن الدهون والمسبك |
| 5. Decrease salt intake | التقليل من الملح والمواالح مثل المخللات وما شابه |

Anti-Hypertensive drugs

مجموعات الضغط الدوائية

A → ACE Inhibitors and ARBs

B → Beta Blockers

C → Calcium Channels Blockers

D → Diuretics and Dilators

ACE inhibitors

Short acting ACE inhibitor (Captopril)

2:3 times daily 1hr before meals

قرص مرتين او ثلاث مرات يوميا قبل الاكل بساعة

Egyptian Market

Capoten 25,50 mg

Capotril 25,50 mg

Long acting ACE inhibitors

Can be taken once or twice daily

قرص مره واحده او مرتين او ثلاثة مرات يوميا قبل الاكل بساعة

Long Acting ACE inhibitors	Egyptian Market
Enalapril	Ezapril 10,20 mg
Lisinopril	Zestril 5,10,20 mg
Perindopril	Coversyl 4,5,8,10 mg
Ramipril	Corpril 1.25,2.5,5 mg Tritace 1.25,2.5,5 mg

Side effects

Dry cough / Hyperkalemia / Deterioration of Renal functions / proteinuria / Pancytopenia

في حال استخدام هذه المجموعة يجب متابعة وظائف الكلى كل شهر على الاقل

في حال ظهور الاعراض الجانبية لمجموعة الـ **ACE inhibitors** من الممكن استخدام مجموعة الـ **ARBs** بدلا منها

ARBs

Dose once daily at morning

قرص مره واحده يوميا على الريق

ARBs	Egyptian Market
Losartan	CozAAr 50,100 mg Losartan 50,100 mg
Valsartan	Tareg 80,160,320 mg
Telmisartan	Micardis 40,80 mg
Irbesartan	Aprovel 150,300 mg Kansartan 150,300 mg X Tension 150,300

Beta Blockers

Non selective B blocker (Propranolol)

Inderal 10,40 mg

Usually used in Portal hypertension

Selective B blockers once daily

Selective B blockers	Egyptian Market
Atenolol	Ateno 50,100 mg Blokium 50,100 mg Tenormin 50,100 mg
Bisoprolol	Bisocard 5,10 mg Concor Cor 2.5 mg Concor 5,10 mg

Calcium ch. blockers

Dose once daily

Calcium ch. Blockers	Egyptian Market
Verapamil	Verapamil 40,80 mg Isopten 80 mg
Diltiazem	Delaytiazem SR 90,120,180,240 mg
Nifedipine	Epilat 10 mg thrice daily Epilat retard 30 mg twice daily
Amlodipine	Norvasc 5,10 mg Alkapress 5,10 mg

Diuretics

Potassium loosing diuretics

Potassium loosing diuretic	Egyptian Market
Furosemide	Lasix 40 mg
Bumetanide	Burinex 1 mg Edemex 1 mg Edemex 25 mg amp.
Indapamide	Natrilix SR
Torsemide	Examide 10,20 mg
Combination	Lasilactone 50,100 mg

Potassium sparing diuretics once daily

Potassium sparing diuretic	Egyptian Market
Spironolactone	Aldactone 25,100 mg

Potassium preparations 2:4 gm daily

Potassium preparation	Egyptian Market
KCL	Potassium M syrup 165 mg/5ml

Other

Selective α_1 blockers 2:4 times daily

Selective α_1 blockers	Egyptian Market
Prazocin	Minipress 1,2 mg

Mixed α & B blocker

Mixed α & B blocker	Egyptian Market
Carvedilol	Carvid 6.25,25 mg Dilatrol 6.25,25 mg

Centrally acting sympatholytics 2:3 times daily الامن فى حالات الضغط العالى فى الحامل

Centrally acting sympatholytics	Egyptian Market
Methyl dopa	Aldomet 250 mg

Direct vasodilators in refractory hypertension

Direct vasodilator	Egyptian Market
Na Nitroprusside	Na Nitroprusside 50 mg vial

Combinations

ACE inhibitors + Hydrochlorothiazide	
Captopril + Hydrochlorothiazide	Capozide
Enalapril + Hydrochlorothiazide	Ezapril CO
Lisinopril + Hydrochlorothiazide	Zestoretic
Ramipril + Hydrochlorothiazide	Tritace Comp
ARBs + Hydrochlorothiazide	
Losartan + Hydrochlorothiazide	HyzAAR ... Losartan Comp
Valsartan + Hydrochlorothiazide	Co-Tareg 80,160 mg
Telmisartan + Hydrochlorothiazide	Micardis Plus 40,80 mg
Irbesartan + Hydrochlorothiazide	Co-Aprovel ... X-Tension plus 150,300 mg
B Blockers + Diuretics	
Atenolol + Chlorthalidone	Blokium Diu
Bisoprolol + Hydrochlorothiazide	Bisocard Plus Concor Plus 5,10 mg

GoLdeN TableS

Side effect based choice table

Drug	Side effect	Contraindicated in
ACE inhibitors	Hyperkalemia Dry cough Renal impairment	K preparations / K sparing diuretics Bronchial Asthma If serum creatinine > 1.5 mg% Pregnancy Bilateral renal artery stenosis
B Blockers	Bronchospasm Bradycardia Masking signs of hypoglycemia	Bronchial asthma Heart block DM
Calcium Ch. Blockers	Bradycardia Tachycardia e nifedipine ↓ cardiac contractility	Heart block Ischemic heart diseases e nifedipine Heart failure

Hypertension in certain situation table

Clinical situation	Preferred drugs	Contraindicated drugs
Coronary artery disease	B blocers / CCBs	Hydralazine ... Minoxidil
Heart failure	Diuretics / ACE inhibitors	CCBs
Renal failure	Methyl dopa / Loop diuretics	K sparing diuretics
Bilateral renal a stenosis		ACE inhibitors
Bronchial asthma		B Blockers
DM		B Blockers
Pregnancy	Methyl dopa	Diuretics / ACE inhibitors
Raynaud's	Selective α_1 blockers	B blockers

Age Stage based choice table

	< 55 years	$\geq$ 55 years
Stage 1	A or B	C or D
Stage 2	A or B	+ C or D
Stage 3	A or B + C	+ D
Resistant HTN	Add either α blocer or spironolactone or other diuretics	

AIM of HTN management

الاهداف المنشودة من علاج الضغط العالي

1. Keep blood pressure < 140/90
2. Keep blood pressure < 130/80 in DM and renal impairment
3. Prevent target organ damage

Training cases

Case 1

Femal Patient aged 44 years e blood pressure more than 150/95 mmHg e no other abnormalities

R/ Capoten 25 mg twice daily

Or R/ Ezapril 10 mg once daily

Or R/ Concor 5 mg once daily

Analysis

1. The patient is stage 1 so we use only one drug
2. The patient is below 55 years so we use ACE inhibitors or B blockers

NB

Follow up is after 10 days

We can increase either the dose of the drug or the frequency according to the patient's response

Case 2

Male patient aged 37 years e blood pressure 140/90 and he is diabetic 5 years ago with no other abnormalities

R/ Tritace 1.25 mg once daily

Analysis

The patient is diabetic e blood pressure more 130/80 / ACE inhibitors are recommended

Case 3

Femal patient aged 62 years e blood pressure 155/100 mmHg on hemodialysis e no other abnormalities

R/ Alkapress 5 mg once daily

Or R/ Aldomet 250 mg twice daily

Or R/ Lasix 40 mg once daily

Analysis

1. In renal failure methyl dopa, CCBs and loop diuretics are preferred
2. While ACE inhibitors and K sparing diuretics are contraindicated

Case 4

Male patient aged 34 years e blood pressure 185/110 mmHg, on aminophylline with no other abnormalities

R/ Alkapress 5 mg once daily + R/ Lasilactone 50 mg once daily

Or R/ X-Tension plus 150 mg once daily

Analysis

1. The patient is stage 2 so drug combination is recommended
2. The patient is asthmatic or COPD B blockers is not preferred because of bronchospasm
3. ACE inhibitors better to be avoided as it is irritative to respiratory mucosa
4. ARBS may be used instead of ACE inhibitors
5. Management is achieved by adjusting the dose or the frequency of the drug

Case 5

Female patient aged 55 years e blood pressure 160/100 mmHg e signs of heart failure e no other abnormalities

R/ Tritace Comp once daily

Analysis

1. In heart failure a combination of ACE inhibitor and diuretics is recommended
2. CCBS must be avoided due to its –ve inotropic effect

Case 6

**Male patient aged 43 years old e blood pressure 170/100 mmHg
e chest pain related to effort and depressed ST segment on ECG**

R/ Dinitra 5 mg once daily

R/ Norvasc 5 mg once daily

R/ Lasilactone 50 mg once daily

R/ Aspocid 75 mg

Analysis

1. In IHD nitrates improves blood supply to cardiac muscles
2. CCBS is preferred as it decreases contractility and heart rate so it decreases oxygen need
3. Nifedipine is contraindicated as it causes tachycardia
4. Diuretics is preferred as it decreases cardiac preload
5. Aspocid is cardioprotective against thrombus formation

Case 7

**Pregnant female developed HTN during the 33rd weak
with lower limb oedema / no other abnormalities**

R/ Aldomet tab twice daily

Analysis

1. Methyl dopa is preferred during pregnancy
2. Diuretics is preferred in HTN e oedema but it is highly contraindicated in pregnancy
3. ACE inhibitors also is contraindicated in pregnancy

Case 8

Female patient aged 45 years, e blood pressure 150/95 mmHg, obese, and she was diagnosed as hypothyroid patient and she is on Eltroxin 150mcg daily dose. On examination there was LL oedema and pulse rate 62 beats/min

R/ Lasilactone 50 mg once daily

Or R/ Ezapril 10 mg once daily

Analysis

1. Diuretics is recommended in HTN with LL oedema
2. B blocker is not preferred in myxoedema or bradycardia as it may cause heart block
3. In obese patient cholesterol and TGs are recommended

HTN emergency

كيف نتعامل مع حالات الضغط العالي في الطوارئ

Complaint

- Headache
- ± Blurring of vision
- ± epistaxis

On examination

Blood pressure more than 140/90

Lines of treatment

1. R/ **Lasix 40 mg** (intravenous) up to 2:3 ampoules
يقاس الضغط بعد دخول المريض الحمام 3 مرات او بعد نصف ساعة Measure blood pressure every 30 min
2. R/ **Capoten 25 mg** قرص تحت اللسان / طعمه مرشوية بس لازم المريض يستعمله
من الممكن ان نبدأ بأمبول لازكس ويريد فقط
ومن الممكن ان نبدأ بأمبول لازكس ويريد قرص كابوتن تحت اللسان في وقت واحد على حسب حالة المريض
3. R/ **Epilat caps** (sublingual) يتم ثقب كبسولة الابلات ثم وضعها تحت اللسان لمدة 15 الى 30 ثانية ثم بلعها
بعض الاطباء لا يفضلون الابلات تحت اللسان لانه بيوطى الضغط بسرعة ومن الممكن حدوث هبوط حاد في الضغط

4. R/ Nitronal vial (10 cc added to 90 cc Glucose 5 %)

يضاف 10 سم من النيترونال الى 90 سم محلول جلوكوز 5 % علي جهاز محلول السلوسيت
يعلق الترايديل (النيترونال) بمعدل 3 ن/ق ومضاعفاتها بالسلوسيت بحيث لا يقل الضغط عن 70 / 100 مم زئبق
ويستخدم في حالات الضغط العالي الذي لا يستجيب للطرق السابقة
ويتم تعليق النيترونال في قسم القلب او في قسم عناية الباطنة العامة

Hypotension

Diagnosis

- Headache
- Drowsiness
- $\pm$ Shock
- Blood pressure < 90/60

Treatment

Blood pressure (90/60 : 80/50) → R/ Dexta amp IV **OR** R/ Solucortif vial IV

لو ضغط المريض يتراوح من 60/90 الى 50/80 من الممكن اعطاء المريض امبول ديكسونيم 8 مجم او سوليوكورتيف

Blood pressure (< 80/50) → R/ saline infusion + R/ Dexta amp **OR** R/ Solucortif vial IV

اذا كان ضغط المريض اقل من 50/80 يتم تعليق محلول ملح به سوليوكورتيف

و ينصح المريض بتناول بعض الموالح ولا ينصح بالاكثار منها

Home treatment

R/ Effortil drops (10:15 drops / 0.5 cup of water once or twice or thrice daily)

يوجد من الايفورتيل نقط و اقراص تؤخذ من مره الى ثلاث مرات على حسب الاستجابة والحالة الاكلينيكية للمريض

توضع من 10 الى 15 نقطة من الايفورتيل على نصف كوب ماء

في حالات الضغط الواطى الشديد و الذى لا يستجيب الى الايفورتيل من الممكن استعمال الاستونين هـ اقراص

R/ Astonin H tab

2 قرص بعد الافطار و قرص بعد الغذاء

N.B. search for the cause

الدكتور من ضمن اعماله انه يعالج الاعراض التي يعاني منها المريض و لكن لا يجب ان ننسى ان نعالج السبب

من ضمن الاسباب المشهورة للضغط الواطي

الانيميا _ و ستتفاجأ ان عدد الذين لا يعانون من الانيميا في مصر اقل بكثير من الذين يعانون منها

و من اهم اعراض الانيميا الارهاق و الكسل و النهجان و الاحساس بضربات القلب و عدم القدرة على التركيز

Causes of hypotension

1. Anemia
2. Low blood volume
 - Bleeding
 - Excessive sweating
 - Excessive loss of fluids e.g. diarrhea and vomiting
 - Excessive use of diuretics
3. Hormonal changes e.g. Hypocorticism
4. Excessive use of vasodilators e.g. ACE inhibitors
5. Heart failure

Iron deficiency anemia

انيميا نقص الحديد

Clinical picture

- | | |
|------------------------------------|--|
| 1. Dyspnea and rapid breathing | الشعور بضيق في النفس عند بذل مجهود |
| 2. Palpitation | الشعور بضربات القلب عند بذل مجهود |
| 3. Easy fatiguability | التعب بسرعة عند القيام بأى مجهود خاصة صعود السلم |
| 4. Headache and blurring of vision | صداع مستمر و زغله |
| 5. Lack of concentration | صعوبة التركيز و تتجلى بصورة واضحة في الطلاب وضعف مستواهم الدراسى |

Investigations

CBC microcytic hypochromic anemia

صورة دم كاملة

Serum iron level less than 60 microgram %

نسبة الحديد في الدم

Usual treatment of anemia

R/ Ferro-6 caps

كبسولة مره واحده او مرتين يوميا بين الوجبات لمدة شهر

R/ Supravit caps

كبسولة كل 12 ساعة لمدة شهر

يتم اخذ العلاجين معا _ فالاول حديد و الثانى فيتامينات واملاح _ لمدة شهر ثم تعاد صورة الدم الكاملة و بناء على نتيجة صورة الدم الكاملة يتم اتخاذ القرار بايقاف او استكمال العلاج

R/ Depovit B₁₂ amp

و من الممكن ايضا استخدام حقن فيتامين ب 12 حقنة عضل كل 3 ايام

ملحوظة فيتامين سى يزيد من امتصاص الحديد لذلك من الممكن استخدام فوار فيتا سى او ننصح المريض بعصير الليمون

Parenteral iron

Indications of iron infusion

1. Patient cannot tolerate oral iron as in gastritis and peptic ulcer
2. For rapid response as in late pregnancy and before surgery
3. Severe symptomatic anemia
4. Malabsorption

Iron preparations in egyptian market

Sacrofer amp / Ferosac amp / Haemojet amp / Cosmofer amp

Dose of parenteral iron

$$\text{Number of ampoules} = \frac{(\text{Body weight} \times \text{Hb deficiency} \times 2.4) + 500}{100}$$

Hb deficiency = 12 - present patient haemoglobin

Example

مريض وزنه 60 كجم ونسبة الهيموجلوبين 9 جم% ويعانى من التهابات بجدار المعدة _ ما هو عدد امبولات الحديد اللازمه ؟

$$\text{Hb deficiency} = 12 - 9 = 3 \text{ gm\%}$$

$$\text{Number of ampoules} = \frac{(60 \times 3 \times 2.4) + 500}{100} = 9$$

1. يحل الحديد في محلول ملح فقط بمعدل لا يزيد عن امبول لكل 100 سم³ محلول ملح
2. يوضع امبولين على محلول الملح بمعدل تنقيط 10 نقاط في الدقيقة ثم يوقف لمدة 10 دقائق
3. اذا ظهرت اعراض الحساسية يوقف الحديد و يحقن المريض بامبول افيل و سوليوكورتيف وريدى
4. اذا لم تظهر اعراض الحساسية يوضع باقى امبولات الحديد بالمحلول بحد اقصى امبول لكل 100 سم محلول ملح
5. اول نصف ساعة يكون معدل التنقيط بطئ
6. ثان نصف ساعة يكون معدل التنقيط متوسط
7. ثالث نصف ساعة يكون معدل التنقيط سريع

بعض الاطباء يضع امبول واحد فقط على محلول الملح و يعلق المحلول مره كل 3 ايام او اسبوع

ملحوظة يعاد تحليل صورة الدم الكاملة بعد فتره تتراوح من اسبوع الى 10 ايام بعد اخر جرعة

Headace

Etiology

General causes

Hypertension / Hypotension / Hypoglycemia / Anemia / Infections

Local causes

1. Errors of refraction
2. Sinusitis
3. Trauma
4. Intracranial space occupying lesion
5. Inflammation : meningitis / encephalitis
6. Vascular : ICH / migraine

Psychic and tension headache

Diagnosis

1. Measure blood pressure
2. Measure body temperature
3. Search for pallor
4. Ask about constipation
5. Ask about eye / nose / ear / teeth / CNS problems

امبول ديكلوفين عضل + علاج سبب الصداع R/ Rheumafen 75 amp IM + Treatment of the cause

Treatment of tension headache

Analgesics

R/ Cataflam 25 tab قرص 3 مرات يوميا بعد الاكل

Muscle relaxant

R/ Mylogin caps قرص مرتين يوميا بعد الاكل

Antidepressant

R/ Tryptazole tab قرص مره واحده يوميا قبل النوم

Migraine

Clinical presentation

Paroxysmal hemicranial throbbing headache may be associated by visual disturbance

Treatment

Bed rest in dark room

R/ Metograin tab

2 tablets can be repeated up to 3 times daily

Migraine drugs are contraindicated in (pregnancy/coronary diseases/PVD)

Diabetes Mellitus (DM)

Definition

Impaired glucose metabolism due to insulin **deficiency** and/or **resistance** → hyperglycemia

Etiology

Primary DM (>95%)

الاشهر على الاطلاق

1. Type I (insulin dependent DM) ... (it is due to genetic or immunological factors)
2. Type II (non insulin dependent DM) ... (it is due to genetic factors and obesity)

Secondary DM (<5%)

Pancreatic diseases

- Chronic pancreatitis / Cancer / Cystic fibrosis / Hemochromatosis / Pancreatectomy

Endocrinal diseases (↑ anti-insulin hormones) هرمونات تضاد الانسولين وتزيد مستوى السكر بالدم

- ↑ GH → acromegaly
- ↑ Thyroxin → thyrotoxicosis
- ↑ Cortisol → cushing's syndrome
- ↑ Catecholamines → pheochromocytoma
- ↑ Glucagon → glucagonoma

Chronic renal failure

Chronic liver failure

Drugs

- Corticosteroids
- Thyroid hormone
- Diuretics
- Diazoxide

Gestational DM

ارتفاع مستوى السكر اثناء الحمل

مقارنة بين النوع الاول و النوع الثانى

	Type I	Type II
Incidence	10%	90%
Age of onset	Less than 30	More than 30
Body weight	Usually decreased	Usually increased
Severity	More sever	Less sever
Complications	More common	Less common
Coma	DKA	Hyperosmolar coma
Insulin level	Low or abscent	Early (high) ... Late (low)
Insulin therapy	Essential	Not essential
Oral Hypoglycemic Drugs (OHD)	Not effective	Effective

Complications

Macrovascular complications (atherosclerosis)

- Angina / Acute MI / HF / sudden death
- Ischemia of the lower limbs

Micro vascular complications

- Neuropathy
- Retinopathy
- Nephropathy

Metabolic syndrome

- Hypertension
- Hyperglycemia
- Obesity
- Dyslipidemia (high TG / low HDL / high LDL)

Neurological

- Peripheral neuropathy
- Coma
- Radiculitis
- Stroke

Gastrointestinal

- Gingivitis / loosening of teeth
- Gastroparesis / nausea and vomiting / abdominal pain during DKA
- Diarrhea
- Fatty liver
- Chronic cholecystitis / gall stones

Respiratory

- Infections (especially TB and Pneumonia)
- Kausmaul's respiration and acetone odour in breath during DKA

Genital

- Impotence
- Pruritus vulvae / vaginal moniliasis

Occular

- Diabetic retinopathy
- Errors of refraction
- Cataract
- Glucoma
- Infection

Urinary tract

- Urinary tract infections
- Stones
- Diabetic nephropathy

Cutaneous

- Pruritus
- Infections (furuncles / carbuncles / cellulitis / abscess / fungal infections)
- Diabetic dermopathy (red painless papules)
- Necrobiosis diabetorum (red painless papules with yellow center)
- Acanthosis nigricans (hyperpigmented velvety patches)
- Xanthomata (yellow plaques around eye lids due to hyperlipidemia)
- Delayed wound healing
- Diabetic foot
- Insulin lipodystrophy

Clinical presentations

1. Asymptomatic
2. **Symptomatic:** Polyuria ... Polydipsia ... Polyphagia ... Pruritus ... Parathesia
3. Complications
4. Clinical picture of the cause

المريض يشتكى ان ريقه ناشف على طول وبیشرب مياة كثير وبيدخل الحمام للتبول كثير وانه بياكل كثير وبیخس

Investigations

Plasma glucose (fasting and 2hrs post prandial)

- Fasting plasma glucose (N= 70 - 110 mg/dl)
 - 2hrs post prandial (N= less than 140 mg/dl)
- التحليل الاشهر لتشخيص مرض السكر ولمتابعته ايضا _ سكر صائم وفاطر بعد ساعتين

Urine analysis

- To detect glucose or acetone in urine

Glycosylated hemoglobin (Hb A1c)

- Normally = 6% of total hemoglobin
 - Estimates the efficiency of diabetic control
- يتم عمل الهيموجلوبين السكري لمعرفة مدى التحكم في مستوى سكر الدم على مدار 3 شهور سابقة

C peptide

- Decreased → type I
- Increased or normal → type II

يتم عمل السي بيبتيڊ لمعرفة ما اذا كان المريض يعاني من النوع الاول او الثانى من مرض السكر

Investigations of complications

- ECG / Urine analysis / Lipid profile ... etc

Diagnosis

كيفية تشخيص مرض السكر ؟

1. Fasting plasma glucose ≥ 126 mg/dl on at least 2 separate occasions
2. Two-hour post prandial plasma glucose level ≥ 200 mg/dl
3. Symptomatic DM + random blood glucose ≥ 200 mg/dl

احد هذه الشروط يكفى لتشخيص مرض السكر

Goals of management of DM

الاهداف الواجب علينا متابعتها لمريض السكر

1. **Pre prandial plasma glucose** 90 : 130 mg/dl
2. **Post prandial plasma glucose** less than 180 mg/dl
3. **Hb A1c** less than 6%
4. **Blood pressure** less than 130/80 mmHg
5. **Cholesterol** less than 150 mg
6. **LDL** less than 100 mg%
7. **HDL** more than 45 mg%
8. **Prevention** of acute and chronic complications

Life style modifications

- التقليل من وزن الجسم
- التقليل من اكل الدهون والاملاح والنشويات
- استخدام وجبات صغيره متكرره (5:6 مرات يوميا) بدلا من 3 وجبات كبيره
- المواظبة علي ممارسة الرياضة ... المشي السريع او الجري الخفيف نصف ساعة علي الاقل 5 مرات في الاسبوع
- الاكثار من اكل الخضروات والفواكه
- الامتناع عن التدخين
- الامتناع عن العصائر والمياه الغازية التي تحتوي علي نسبة سكريات عالية واستخدام الدايت بدلا منها

- التقليل من استخدام السكريات البسيطة او استخدام المحليات مثل الفركتوز
- الحفاظ علي الجسم من الجروح لانها تلتئم بصعوبة

مثال

مشروبات	خضروات وفواكه	دهون	بروتين	كربوهيدرات	
كوب شاي محلي بمعلقة سكر واحدة	خيار او طماطم	بيضة مسلوقة او قطعة جبن	ملعقتين فول او 2 طعمية	نصف رغيف بلدي	الافطار
سندوتش جبنة + خيار او قطعة بسكوت					وجبة خفيفة 1
	سلطة وثمره فاكهة		ربع فرخة او قطعة لحم او سمك	4 ملاعق ارز او معكرونة	الغذاء
ثمرة فاكهة					وجبة خفيفة 2
كوب شاي محلي بمعلقة سكر واحدة	خيار او طماطم	بيضة مسلوقة او قطعة جبن	ملعقتين فول او 2 طعمية	نصف رغيف بلدي	العشاء
كوب لبن صغير					وجبة خفيفة 3

Oral Hypoglycemic Drugs

Sulphonylureas

يفضل البدء بهذه المجموعة في المريض النحيف لانها تزيد الوزن

Egyptian market

قرص مرة واحدة يوميا بحد اقصى 8 مجم يوميا R/ Amaryl 1,2,3,4 mg

قرص مرة واحدة يوميا R/ Diamicron MR 30,60 mg

قرص واحد يوميا او نصف قرص كل 12 ساعة بحد اقصى 3 اقراص فى اليوم R/ Daonil 5 mg

Mechanism of action

- ↓ insulin resistance
- ↑ insulin secretion
- ↓ hepatic glucose production

Side effects

- Hypoglycemia
- Bone marrow depression
- GIT irritation
- Skin rash

Biguanides (Metformin)

يفضل البدء بهذه المجموعة في المريض السمين لأنها تنقص الوزن

Egyptian market

R/ Cidophage 500,850,1000 mg

قرص مره واحدة يوميا وسط الغذاء

Mechanisms of action

- ↑ passage of glucose into the cells
- ↑ anaerobic glycolysis
- ↓ appetite
- ↓ glucose absorption
- ↓ gluconeogenesis

Side effects

- Loss of appetite
- GIT irritation
- Lactic acidosis
- Anemia (due to vitamin B12 malabsorption)

Alone they donot cause hypoglycemia

Sulphonylurea + Metformin

خليط من المجموعة الاولى و المجموعة الثانية

R/ Amaryl M 2/500

قرص مرة واحدة او مرتين يوميا

Repaglinide

R/ Novonorm 0.5,1,2 mg قرص واحد نصف ساعة قبل الوجبات .. ولا يؤخذ في حال عدم تناول الوجبات

ويفضل استخدامه في المريض الذي ليس له مواعيد اكل ثابتة مثل رجال الاعمال

Acarbose

R/ Glucobay 50,100 mg قرص واحد قبل الوجبة الرئيسية

Thiazolidine-diones

R/ Glustin قرص واحد قبل الافطار

Contraindications of OHD

1. IDDM لا تستخدم في النوع الاول لانه يعتمد على الانسولين في الاساس
2. NIDDM with sever hyperglycemia في هذه الحالة يجب استخدام الانسولين
3. DKA اذا عانى مريض النوع الثانى من ارتفاع نسبة الكيتون بالدم والبول يجب استخدام الانسولين
4. DM with pregnancy ممنوع استخدام الحبوب المخفضة لسكر الدم منعاً باتاً في الحامل
5. Surgery في حالات الجراحة يجب استخدام الانسولين لان الستريس بتاع الجراحة بيرفع جلوكوز الدم
6. Sever liver disease ممنوع استخدام الاقراص المخفضة للجلوكوز في مرضى الكبد والكلية
7. Renal disease ممنوع استخدام الاقراص المخفضة للجلوكوز في مرضى الكبد والكلية

INSULIN

Indications of insulin therapy

الحالات التي يجب فيها استخدام الانسولين

1. IDDM النوع الاول و الذى يعتمد بالاساس على نقص الانسولين
2. NIDDM with failure of OHD عدم انخفاض مستوى السكر بالرغم من استخدام اقصى الجرعات من الاقراص
3. DKA (once DKA always insulin) مجرد حدوث الكيتوزيس يعنى استخدام الانسولين
4. Diabetes with pregnancy اثناء الحمل
5. Surgery في حالات الجراحة
6. Sever liver disease لابد من استخدام الانسولين بدلا من الاقراص في مرضى الكبد والكلية
7. Renal disease لابد من استخدام الانسولين بدلا من الاقراص في مرضى الكبد والكلية
8. Sever stress e.g. infection

Most common types of insulin

Short acting insulin

Onset = 30 min Peak = 3 hrs Duration = 6 hrs

R/ Actrapid انسولين اکت رابڈ (الانسولين المائى)

R/ Humulin R

يستخدم الانسولين الاکت رابڈ في حالات الهيپرجليسميا والکيتوزس

بجرعة معينة وبمعدل تنقيط معين وغالبا ما يستخدم في الطوارئ

يستخدم عن طريق الحقن بالعضل او الوريد و البتتنقيط

Intermediate acting insulin

Onset = 3 hrs Peak = 8 hrs Duration = 24 hrs

R/ Monotard

R/ Humulin N

Long acting insulin

Onset = 4 hrs Peak = 16 hrs Duration = 36 hrs

R/ Detemir

Insulin mixtard

Content = 30% short acting + 70% long acting

R/ Insulin mixtard 40 or 100 انسولين ميكستارد (الانسولين المعكر)

ملحوظة يعطى الانسولين الـ 40 بـسرـنـجـة انسولين الـ 40 والانسولين الـ 100 بـسرـنـجـة انسولين 100 تحت الجلد

Dose of insulin

Insulin actrapid (IV or IM)

Plasma glucose level	200 : 250	250 : 300	300 : 350	350 : 400	More than 450
Insulin units	5 U	10 U	15 U	20 U	25 U

Insulin mixtard (subcutaneous)

Insulin units = Body Wt. × 0.7

2/3 of the total dose → before break fast

1/3 of the total dose → before dinner

بعد تحديد الجرعة يتم متابعة مستوى السكر وتطبيق جرعة الانسولين بالزيادة او النقصان حتى ينضبط مستوى السكر بالدم

Follow up of Diabetic patient

1. Blood pressure
2. Urine analysis
3. Kidney and Liver functions
4. Fundus examination
5. Lipid profile
6. ECG
7. Abdomino-pelvic U/S

How To Deal

كيفية التعامل العلاجي مع مريض السكر

- النوع الاول نبدأ العلاج بالانسولين مباشرة مع الالتزام بالبرنامج الغذائي والرياضي وزيادة جرعة الانسولين او انقصاها علي اساس مستوي السكر بالدم
- النوع الثاني نبدأ بالالتزام بالبرنامج الغذائي والرياضي وفي حال عدم الاستجابة نضيف OHD ونزيد من الجرعة او باستخدام اكثر من دواء في حدود الجرعات المسموح بها حتي ينضبط مستوي السكر بالدم
- في المريض النحيف نبدأ معاه بـ (المجموعة الاولى) اماريل .. في المريض السمين نبدأ معاه بـ السيدوفاج
- في حال عدم انضباط مستوي السكر بالدم بعد استخدام اقصى الجرعات من الاقراص نلجأ الي استخدام الانسولين
- نبدأ الانسولين بالجرعة الموصي بها وان لم ينضبط مستوي السكر بالدم نزيد الانسولين بمعدل 5 الى 10 وحدات انسولين حتي ينضبط مستوي السكر بالدم
- نحكم علي مدي انضباط السكر بقياس السكر (صائم و فاطر بعد ساعتين)
- مستوي السكر الصائم يدل علي الجرعة المسائية .. ولذلك ارتفاع السكر الصائم يدل علي انه يجب زيادة الجرعة المسائية سواء OHD او الانسولين
- وعلي نفس النهج .. مستوي السكر الفاطر .. ارتفاعه يدل علي انه يجب زيادة الجرعة الصباحية سواء OHD او الانسولين

Drugs to prevent complications

To prevent hypertension and proteinuria

R/ Capoten 25 mg قرص مرتين او ثلاث مرات يوميا قبل الاكل بنصف ساعة

To prevent hyper cholesterolemia

R/ Ator 10,20 mg قرص يوميا وسط العشاء

To prevent acute and chronic complication

R/ Aspocid 75 mg قرص او قرصين مره واحده يوميا بعد العشاء

Vitamin B support

R/ Neuroton tab قرص واحد مره او مرتين يوميا

OR R/ Neurovit amp حقنه عضل كل 3 ايام

يجب استخدام فيتامين ب للوقاية من اعتلال الاعصاب الطرفية و المشهور فى مرضى السكر

Diabetic neuropathy

R/ Tegretol 200 mg CR (once daily before bed time)

R/ Sulid tab (twice daily after meals)

يستخدم احد الدوائين السابقين فى حال ان مريض السكر يشتكى من الام فى الاطراف

Diabetic Keto Acidosis

History

The patient is diabetic

Complaint

- Polyurea
- Thirst
- Abdominal pain
- Nausea and vomiting
- Weakness
- Blurring of vision

On examination

- Dehydration
- Hypotension
- Tachycardia
- Cold extremities
- Kussmaul breathing
- Smell of acetone
- Coma

Investigations

Random blood glucose usually more than 200 mg %

Urine acetone positive acetone in urine

تخلي المريض يجيب عينة بول وشريط اسيتون

تحط شريط الاسيتون في عينة البول

لو لون الشريط اتحول للموف يبقى اسيتون (+)

لو لون الشريط اتحول للون البنفسجي يبقى اسيتون (++)

لو لون الاسيتون اتحول للون الاسود يبقى اسيتون (+++)

Routine investigations Urea and creatinine / urine analysis / CXR / CBC / CRP / Na and K

يتم عمل السكر العشوائى والاسيتون فى الحال

اما التحاليل الروتينية يتم عملها بعدما يتم التعامل مع المريض وبعد تعليق المحاليل ودخول المريض للمستشفى

Precipitating factors of DKA

- Missed insulin dose المريض لم يأخذ جرعة الانسولين
- Stress التوتر والضغط العصبى
- Infection حدوث عدوى او ارتفاع درجة الحرارة فى حالات الالتهاب الشعبى والرئوى والنزلات المعوية
- Stroke and MI
- Undiagnosed

Problems we deal with

المشاكل التى يجب ان نفكر بها اثناء العلاج _ بهذا الترتيب

1. Dehydration الجفاف _ اهم شئ يجب علاجه لانه الاخطر
2. Acidosis
3. Hypokalemia
4. Hyperglycemia
5. ± Infection
6. ± Thrombosis

اول حاجة نعملها للمريض نركب كانيولا يمين وشمال ونركب قسطرة بولية اذا كان الامر يتطلب ذلك

Dehydration

في الكانيولا الاولى نركب محلول ملح 500 الان ثم

500 سم بعد 1/2 ساعة

500 سم بعد ساعة

500 سم بعد ساعتين

500 سم بعد 3 ساعات

500 سم بعد 4 ساعات

وهكذا حتي يتحسن الجفاف

ولازم تاخذ بالك ان الداخل يساوي الخارج + 500 سم

عادة يحتاج المريض 6 لترات في اول 24 ساعة

ملحوظة اذا انخفض مستوى السكر في الدم عن 270 مج % يستبدل محلول الملح بجلوكوز 5 %

حتى لا ينخفض مستوى السكر بالدم عن المستوى المطلوب

Hyperglycemia

في الكانيولا الثانية نركب محلول ملح

يضاف الي محلول الملح 50 وحدة انسولين مائي بمعدل تنقيط 15 نقطة في الدقيقة

اعطاء انسولين مائي ويريدى (عدد الوحدات = الوزن / 10)

يقاس مستوى السكر بالدم كل ساعة

Hypokalemia

لا تضيف بوتاسيوم في اول زجاجة محلول ملح (بالكانيولا الاولى) الا اذا كان مستوى البوتاسيوم اقل من 3

يضاف امبول بوتاسيوم لكل زجاجة محلول ملح ابتداء من الزجاجة الثانية

How to calculate number of potassium ampoules needed ?

Number of ampoules = (Deficit $\times$ 1/2 body weight) / 10

Deficit = 3.5 – K⁺ level of the patient

Acidosis

Do correction only if (PH < 7.1 or $\text{HCO}_3 < 10$)

Number of ampoules = Deficit / 25

Deficit = 22 – HCO_3 level of the patient

Do ½ correction

نصف عدد الامبولات علي 100 سم رينجر علي مدار ساعتين

Infection

Gram +ve R/ Unictam 1.5 gm IV injection every 12 hrs

Gram -ve R/ Cefotax 500 mg or 1000 mg IV injection every 12 hrs

Anaerobes R/ Flagyl bottle every 8 or 12 hrs

Fever R/ Perfalgan bottle every 12 hrs

Thrombosis

R/ Clexan 20 or 40 or 60 or 80 mg subcutaneous injection once or twice daily

Use these conc. according to body wt. (If body wt. = 60 kg use clexan 60 mg)

Avoid clexan in renal impairment and use Cal-Heparin

Feeding and insulin

Feeding start feeding gradually by fluids then semisolid and solid food

Intravenous insulin stop it when the patient starts oral feeding

Subcutaneous insulin start it 2hrs before cessation of insulin infusion

Treatment of brain oedema

- Head elevation
- Mechanical ventilation
- Mannitol 20% 250 cc every 12 hrs (Rate = 60 drops / min)
- Lasix 40 mg amp. every 12 hrs

Follow up

- Vital data متابعة الضغط والنبض والحرارة كل ساعة او ساعتين
- Hydration
- Random blood sugar (hourly) متابعة مستوى السكر بالدم كل ساعة
- Sodium and potassium (every 2:4 hours)

Hyper Osmolar Hyper Glycemic State

Clinical picture

1. Old age
2. Type II
3. Gradual onset of malaise (weakness / confusion / coma / hemiparesis)

On examination

- Severe dehydration
- Tachycardia
- Hypotension
- If + focal neurological sign CT is mandatory

Investigations

- Glucose ≥ 600 mg/dl
- PH > 7.3
- $\text{HCO}_3^- > 15$
- Serum osmolarity > 320 mosmol/L

Serum osmolarity = $(2 \times " \text{Na} + \text{K} ") + (\text{serum glucose} / 18)$

Management

Like DKA but note that

- Fluids is the corner stone of treatment (give 1:2 L saline immediately)
- Insulin is less important as the main problem is insulin resistance not deficiency
- Give insulin after correction of hemodynamic state
- Correct potassium level
- HCO_3^- is not required
- Clexane is very important

Hypoglycemic coma

History

- High insulin dose مريض اخذ جرعه عالية من الانسولين اكثر من الجرعة المطلوبة
- Missed meal مريض تاخر عن الموعد المحدد لتناول الطعام
- High dose oral hypoglycemic drugs

Presentation

- Coma
- Drowsiness
- Sweeting / Tachycardia / Coldness
- Wet tongue

Investigation

Rapidly estimate random blood sugar (usually below 65 mg%)

Management

- Cannula insertion (peripheral vein)
- Dextros 10%
- Direct injection of 50 cc of Glucose 25%
- Estimate RBS after 5 minutes
- Advise the patient (How to control blood glucose level)

Diabetes insipidus

Polyuria and loss of free water (10:15 L/24hrs) due to

1. Loss of ADH secretion
2. Renal insensitivity to ADH

المريض لا يستطيع الخروج من المنزل بسبب كثرة التبول

Clinical picture

1. Polyuria تبول بكثرة غير عادية
2. Nocturia التبول اثناء النوم
3. Compensatory polydipsia شرب المياه بشراهة
4. Dehydration

Investigation

Water deprivation test

1. Failure of urinary concentration
2. Restoration of urinary concentration with vasopressin

الكثافة النوعية للبول من الطبيعي ان تزداد في حال ان الانسان لم يتناول المياه لفترة طويلة

اما في هذا المرض فان الكثافة النوعية للبول تظل منخفضة حتى اذا لم يتناول المريض المياه لفترات طويلة

و الذي يؤكد هذا المرض ان الكثافة النوعية للبول تزداد اذا تناول المريض الهرمون المضاد للتبول

Treatment of Cranial DI

Desmopressin

R/ Minirin 0.1 or 0.2 mg tablet once – thrice daily

Treatment of Nephrogenic DI

Desmopressin

R/ Minirin 0.1 or 0.2 mg tablet once – thrice daily

Thiazide diuretics

R/ Natrilix tablet once daily

Bronchial asthma

Definition

- Clinical syndrome characterized by recurrent episodes of airway obstruction
- The episode includes 3 main symptoms (Cough / Dyspnea / Wheezing)

Complaint

- Occurs in late night or early morning due to high vagal tone
- **Triad of** cough / dyspnea / wheezing
- **Duration** few minutes / several hours / days على حسب شدة الازمة

Auscultation

- Vesicular breathing with prolonged expiration
- Generalized rhonchi mainly expiratory

Investigations

Bronchial asthma is a **clinical syndrome** and investigations have a little role

Chest X rays may be required in severe and complicated cases

Emergent treatment of bronchial asthma

Inhalation set جلسة استنشاق

(1 cc Farcolin or amp Atrovent + 2 cc saline)

Asthma cocktail

(Aminophylline + Avil + Dexta + Bisolvon) slowly intravenous or over 100 cc ringer

محلول رينجر مضاف اليه امبول امينوفيللين + امبول افيل + امبول ديكسا + امبول بيسولفون

امبول الديكسا ممنوع استخدامة في مريض الضغط و مريض السكر

If not improved

(R/ Solucortef vial intravenous + continuous inhalational sets + O₂)

السوليوكورتيف مميز بانه كورتيزون سريع المفعول

If not improved

(chest x rays and ABG is required and refer to chest department)

Treatment of stridor

Inhalational set (amp Adrenaline + 2 cc saline)

R/ Solucortef vial intravenous

Treatment of bronchitis

R/ Hibiotic 625 mg or 1 gm tab thrice daily for 7:10 days قرص كل 8 ساعات لمدة 7 ايام

R/ Panadol tab thrice daily after meals قرص 3 مرات يوميا بعد الاكل

R/ Allvent syrup thrice daily 5 سم كل 8 ساعات

Home treatment

Attacks less than twice weekly الازمة بتحصل اقل من مرتين فى الاسبوع

R/ Ventolin inhaler (puffs when needed) بخاخة فنتولين فقط عند اللزوم

Attacks twice weekly or more الازمة بتحصل اكثر من مرتين فى الاسبوع

R/ Metrovent inhaler (**long acting β agonist**) twice daily

R/ Celinil forte inhaler (**corticosteroids**) twice daily

R/ Theo SR 100 or 300 (**aminophylline**) twice daily except Friday

Severe cases فى الحالات الشديدة التى لا تستجيب للعلاجات السابقة (الكورتيزون)

R/ Hostacortine H

Dose (3×3×3) then (2×3×3) then (1×3×3) then (1×1×3)

Prophylactic treatment

R/ Zaditen tab (one tablet before bed time for 2 months at the start of spring and autumn)

قرص مضاد للحساسية مره واحدة قبل النوم لمدة شهرين فى بداية موسم الخريف او الربيع

CoMMoN CoLD

Complaint

- FAHM
- Rhinorrhea / Dry cough / Sore throat

On examination

- Congested throat

Treatment

Non pharmacological treatment

- Bed rest راحة بالسرير
- Increase warm fluids intake (ينسون و نعناع و حلبة و) الاكثار من شرب السوائل الدافئة
- Cold sponge

Pharmacological treatment

R/ Allercet Cold caps once daily اقراص للبرد مره واحده يوميا

Or R/ Brufen Flu tab twice daily

R/ Otrivin ND 3 drops in each nostril thrice daily for only 5 days نقط بالانف للرشح و الزكام

R/ Immulant caps thrice daily كبسولات لرفع المناعة

Herpes Simplex

Complaint

- Small grouped vesicles on erythematous base
- Regional LNs are not enlarged except in 2ry or associated bacterial infection

Treatment

Local

R/ Acyclovir 5% cream 4:6 times daily

Systemic

R/ Acyclovir 200, 400, 800 mg tab thrice daily (every 8 hrs) for 7:10 days

Bronchitis

Complaint

- Past history of common cold 3:4 days ago
- Past history of dry cough then productive cough
- FAHM and may be vomiting

On examination

- Fever
- Congested throat
- Enlarged tonsils
- Enlarged lymph nodes
- Coarse crepitations

NB cough may persist for 2 weeks

معلومة مهمة لان المريض ييخف و ييجى يشتكى ان الكحة لسه شغالة و الحل انك تكرر دواء الكحة

Treatment

Non pharmacological treatment

- Bed rest راحة بالسرير
- Excess warm fluids intake (ينسون و حلبة و نعناع و) الاكثار من شرب السوائل الدافئة
- Cold sponge

Pharmacological treatment

Antibiotic

R/ Hibiatic 625 mg or 1 gm tab every 8 hrs for 5:7 days قرص كل 8 ساعات

Analgesic, antipyretic, and decongestant

R/ Brufen Flu tab thrice daily قرص 3 مرات يوميا بعد الاكل

Mucolytic and expectorant

R/ Allvent syrup thrice daily 5 سم كل 8 ساعات

In sever cases we can start with IV or IM injection of antibiotic vials for 2 or 3 days

R/ Flumox 1 gm or R/ Sulbin 1.5 gm vials

فى الحالات الشديدة نبدأ بيومين او ثلاثة حقن كل 12 ساعة و بعدين نكمل اقراص

Pneumonia with out co-morbidity

Definition

It is inflammation of the lung substance (Lobar / Diffuse / Bronchopneumonia)

Clinical picture

1. Fever / Rigor / Shivering
2. Headache / Anorexia / Malaise
3. Nausea / Vomiting
4. Cough followed by mucopurulent sputum
5. Pleuritic chest pain
6. Haemoptysis

Auscultation (Crepitations and decreased air entry over the affected lobe)

Percussion (Dullness over the affected lobe)

Investigations

- Chest X rays
- ABG
- Sputum culture
- Blood culture

Treatment

Non pharmacological treatment

1. Bed rest
2. Small frequent light diets
3. Plenty of fluids and vitamins

Pharmacological treatment

R/ **Cefotax** 1 gm vials (twice daily for 5 days) حقنة وريد او عضل كل 12 ساعة

R/ **Klacid** 500 mg caps (twice daily for 7 days after meals) قرص كل 12 ساعة

R/ **Allvent** syrup (thrice daily) 5 سم كل 8 ساعات

R/ **Cetafen plus** (thrice daily after meals) قرص 3 مرات يوميا بعد الاكل

Gastroenteritis

Definition

Acute disease with diarrhea and/or vomiting and a variable degree of systemic illness

Food poisoning is a term used to describe a self limiting form of gastroenteritis caused by eating contaminated food

Etiology

	Viral	Bacterial	Protozoal
Causative organism	Rota virus Enterovirus Adenovirus Norwalk virus	E. Coli Salmonella Shigella Campylobacter Vibrio cholera	E. Histolytica Giardia lamblia
Stool criteria	Watery High frequency No blood No mucous No tenesmus No abdominal pain	Watery High frequency More blood Little mucous Tenesmus Abdominal pain (on & off)	Semisolid Less frequent Little blood More mucous Severe tenesmus Severe abdominal pain
Fever	Low grade (does not exceed 38.5) High grade (40 Celsius or more)	Moderate grade fever (between 38.5 and 40 c)	No fever
Stool analysis	Free No pus cells No mucous	Pus cells Mucous Blood	E. Histolytica Giardia Mucous Blood

Clinical picture

Most episodes of gastroenteritis are mild and self limiting

Typical presentation

1. Vomiting
2. Diarrhea
3. Cramping abdominal pain
4. With or without fever

Investigation

- Stool analysis
- Stool culture

Assessment of dehydration

	A No dehydration	B Some dehydration	C Sever dehydration
Condition	Alert	Restless / Irritable	Lethargic / Unconscious
Eyes	Normal	Sunken	Very sunken and dry
Tears	Present	Abscent	Abscent
Mouth and Tongue	Moist	Dry	Very dry
Thirst	None	Thirst	Thirst
Drinks	Normal	Eagerly	Not able to drink
Skin turgor	Normal	Reduced	Markedly reduced

Management

Rehydration هالام جدا جدا

Diet

Medications

Rehydration

The primary treatment of gastroenteritis in both children and adults is rehydration

No dehydration

Oral fluids are given freely and normal feeding is encouraged

Some dehydration

ORS (400ml after each bowel action) in addition to water and other fluids

Sever dehydration

Intravenous access with Ringer's lactate or normal saline infusion

(30ml/kg over 30 minutes then 70mg/kg over 2 hours)

Diet

المشروبات

ماء عادى نقى - عصير تفاح سكر خفيف - عصير جوافة سكر خفيف - عصير لمون محلى بالعسل - شراب شعير - شاي

المأكولات

لسان عصفور - ارز مسلوق - معكرونة مسلوقة - شوربة خضار - مهلبية - جيللى - زبادى - جبن - مخبوزات

Medications

In severe cases we can start with fluids infusion فى الحالات الشديدة بنعلق محاليل

Glucose 5% + Primperan + Buscopan + Zantac ± Cefotax 1 gm ± Flagyl bottle

ممکن نعلق المحلول مره واحدة فقط

و ممکن نعلقة كل 12 ساعة لمدة يومين

على حسب الحالة العامة للمريض

Antiemetics

R/ Gastromotil Tab. Thrice daily 15 min before eating

قرص 3 مرات يوميا قبل الاكل بربع ساعة

Antispasmodic

R/ Spasmodigestine Tab. Thrice daily 15 min before eating

Antacid

R/ Antodine 40 mg Tab. Once daily before bed time

قرص مره واحدة يوميا قبل النوم

Antipyretic if feverish

R/ Aspegic vials IM or IV twice daily in the first 12:24 hours

R/ Brufen 600 mg sachet twice daily after meals in the following 3:4 days

كيس على نصف كوب ماء مرتين يوميا بعد الاكل

Antibiotics

Ciprofloxacin 500mg twice daily	Septicaemic salmonella infection Sever shigellosis
Erythromycin 500mg twice daily	Sever campylobacter infection
Doxy 100 MR twice daily	Yersinia Vibrio cholera
Flagyl 500mg thrice daily for 10 da	E histolytica Giardia lamblia
Septazole twice daily	Cyclospora

Antibiotics containing Norfloxacin and Tinidazole الأشهر و الأكثر فاعلية على الإطلاق

R/ CONAZ tablets

R/ Tinidol Plus tablets

R/ Norfloxacin TZ tablets

قرص كل 12 ساعة يوميا لمدة 10 ايام

Acute gastritis

Etiology

Drugs Aspirin / NSAIDs / Corticosteroids

Stress Sepsis / Shock / Sever burn (curling's ulcer)

Other Infection / Cigarette smoking / Alcohol intake

Clinical picture

Asymptomatic

Epigastric pain related to meals increases at night and early morning

Dyspepsia / Nausea / Vomiting / Haematemesis / Melena

Investigation

Upper endoscopy in severe cases

Treatment

Avoiding the offending cause

ممنوع (المسكنات و الكورتيزونات - التدخين - المخدرات و الشطة - المسبك)

Antacid ملطف موضعي لالتهابات جدار المعدة

R/ Mucogel susp one spoon before meals

H₂receptor antagonist

R/ Ranitidine 300 mg once daily 15min before dinner

قرص مرة واحدة يوميا قبل العشاء بربع ساعة او قبل النوم

Proton pump inhibitors المجموعة الاقوى فى حالات التهابات المعدة

R/ Pantoloc 20,40mg tab

R/ Rabacid 10,20mg tab

قرص مره او مرتين يوميا قبل العشاء و قبل الافطار بربع ساعة

Motility regulating drugs

R/ Motil Fast sachet كيس على نصف كوب ماء قبل الاكل بربع ساعة

Chronic gastritis

Types

1. **Chronic active gastritis** → *Helicobacter pylori*
2. **Autoimmune gastritis**
3. **Chemical gastritis** → chronic NSAIDs ingestion

Clinical picture

See acute gastritis

Investigation

Anti HP IgG antibody in serum

HP antigen in stool

Treatment of H pylori (Triple therapy)

R/ Trio clar caps. Twice daily for 2 weeks

كبسولة كل 12 ساعة لمدة 14 يوم

GERD

Definition

Abnormal gastro-esophageal acid reflux

Etiology

- Failure of the tone of LOS
- Poor esophageal peristalsis
- Delayed gastric emptying
- Large hiatus hernia

Clinical picture

- Epigastric pain
- Heart burn
- Dysphagia / Haematemesis / Melena
- Aspiration pneumonia

Investigations

- Oesophagoscopy
- Barium swallow

Treatment

Antacid

H₂ receptor antagonists R/ Ranitidine 300 mg tab once daily

Proton pump inhibitors R/ Pantoloc 40 mg tab once daily

Prokinetic drugs

R/ Motilium tab thrice 15min before meals

Weight reduction

Raising the head of the bed during sleeping

Gastritis in Emergency

R/ **Pantazol vial** diluted in 100 cc ringer intravenous infusion then vial every 12 hrs

R/ **Mucogel susp** thrice daily

Mallory weiss tears

R/ Fastcure 20 or 40 mg tab once daily 15 min before meal

R/ Mucogel susp 15 min before meals

R/ Motilium tab 15 min before meals

Gastric ulcer with active bleeding

Wash with (500 cc saline + 3 ampoules of Adrenaline) via Ryle tube

General management of bleeding

Initial management

- Check pulse and blood pressure
- Oxygen mask if needed
- Insert right and left cannula (peripheral vein)
- Blood group

اول لما تشوف مريض بينزف

تحاول توقف النزيف بالضغط على مكان النزيف
تقيس الضغط و النبض
تركب كانيولات
تاخذ عينة و تعرف الفصيلة
تركب محلول لوقف النزيف

Infusion of

- 500 cc ringer
- R/ Dycinone amp. (2 ampoules)
- R/ Cyclo-Capron amp. (2 ampoules)
- R/ Vitamin K amp
- R/ Zantac amp.

Indications of blood transfusion

- Acute blood loss with **pulse > 100 pulses/min** or **blood pressure < 100 mmHg**
- Hemoglobin < 7 gm%
- Hemoglobin < 8 gm% in cardiac or chest patient

N.B. 1 unit packed RBCs → 1 gm hemoglobin

Complications of blood transfusion

Allergy

- Intravenous injection of (Avil + Dexa)

Fever

- Intravenous injection of (Avil + Dexa)
- Intramuscular injection of (Declophen)

Incompatible blood transfusion

- Fluids → give vigorous IV fluids
- Diuretics → (Lasix + Mannitol + Dopamine)
- NaHCO₃

Viral hepatitis

Renal function tests

Blood urea (N = 20:40 mg%)

BUN (N = 10:20 mg%) (urea = BUN × 2)

Serum creatinine (N = 0.7 : 1.4 mg%)

Creatinine clearance in males (90:140 ml/min)

Creatinine clearance in females (80:125 ml/min)

$$\text{Creatinine clearance} = \frac{U \times V}{P}$$

U = Urine creatinine

V = Volume of urine / min

P = Plasma creatinine

Urine analysis

Color

Normal → Amber Yellow

Colorless (Polyurea)

- DM
- DI
- Increased intake

Red

- Hematuria
- Hemoglobinuria
- Myoglobinuria
- Rifampicin

Brown

- Bilirubin
- Flagyl
- Nitrofurantoin

Blue

- Amitryptiline

Green

- Pseudomonas

Black

- Alkaptonuria

Odour

Fruity / sweet (ketonuria)

Acidic

- Normal
- Ascorbic acid

Alkaline

- Renal tubular acidosis (renal tubules unable to excrete hydrogen ions)
- Na bicarbonate intake
- Urinary tract infection with urea splitting organism (proteus)
- High vegetable diet

Specific gravity

Increased

- DM
- Protein intake
- Volume depletion

Decreased

- DI
- Increased water intake

Urine proteins

Normally = 150:200 mg/24hrs

Less than 3.5 gm/24hrs

- Nephritic
- CHF

More than 3.5 gm/24hrs

- Nephrotic syndrome

Normal albumin < 20 mg/L

Microalbuminuria (20:150 mg/L) → microalbuminuria (early diabetic nephropathy)

Pus cells

If more than 4 cells HPF → Pyuria

If more than 10 cells HPF → Significant pyuria

Red blood cells

If more than 5 cells HPF → Hematuria

Prerenal causes

- Anticoagulant
- Bleeding tendency

Renal causes

- GN
- PN
- Tumors
- Stones

Postrenal causes

- Tumors
- Stones

Casts

RBCs Cast (acute GN)

WBCs Cast (pyelonephritis)

Hyaline Cast (nephrotic syndrome)

Fatty cast (nephrotic syndrome)

Broad cast (dilated kidney tubules in CRF)

Urine crystals

- Uric acid
- Calcium oxalate
- Calcium phosphate
- Cystine

Urine Crystals

Urate crystals

Pharmacological treatment

R/ Urosolvin sachet

One sachet diluted in ½ cup of water twice or thrice daily

Diet

ممنوع الشاي // القهوة // الكاكاو // الكولا // العرقسوس

تقليل اللحوم // الدواجن // الاسماك

زيادة شرب السوائل بكثرة خاصة شراب الشعير

Oxalate crystals

Pharmacological treatment

R/ Epimag sachet

One sachet diluted in ½ cup of water twice or thrice daily

Dite

تقليل السبانخ // البامية // المخللات // الفول الصويا // الفول السوداني // الفلفل الاسود // الفلفل الاخضر // الفراولة // الشيكولاتة

زيادة شرب السوائل بكثرة

Phosphate crystals

R/ Vitacid eff tab

Tab in ½ cup of water twice daily

Urinary tract infections UTI

Complaint

Lower UTI	Upper UTI
Mainly local manifestations	Mainly systemic manifestations
No or low fever	High fever
Supra-pubic pain	Loin pain
Dysuria	Vomiting
Incontinence	Rigor

Investigations

Urine analysis

- Pus cells > 5 cells / HPF
- RBCs may increase due to congestion

CBC

- Leucocytosis

Urine culture

- Required if pus cells more than 20 cells / HPF and in recurrent UTI
- Urine culture must be taken before antibiotic therapy or 48 hrs after stoppage of antibiotic therapy

Kidney functions

- In prolonged or recurrent UTI

Treatment of UTI

Non pharmacological treatment

- Excess fluids intake (2 لتر يوميا) الاكثار من شرب السوائل
- Urination immediately after desire
- Good hygiene decreases the infection

Pharmacological treatment

R/ Ciprfar 500 mg twice daily (every 12 hrs) for 10:14 days

R/ Healthibact 400 mg tab twice daily for 10:14 days

R/ Ceftriaxone 1 gm vials once daily for 5:10 days

طبعا مش كل الادوية مره واحده

الادوية الثلاثة السابقة هم الاشهر فى علاج التهابات مجرى البول

R/ Rowatinex caps كبسولة كل 8 ساعات (مطهر للبول)

R/ Cystone Tab قرص كل 12 ساعة (يعمل على اذابة الحصوات و منع تكوينها)

Renal pain and ureteric colic

Mild cases

Intramuscular therapy (R/ Spasmofen amp when needed)

Oral therapy (R/ Buscopan comp thrice daily)

Moderate cases

Intravenous therapy (R/ Visceralgine amp + R/ Ketolac amp)

Severe cases

Infusion of

(Dextrose 5% + Visceralgine amp + Voltaren amp + Avil) slowly

Severe cases not responding to the above methods

R/ Nalufine amp

Dose one ampoule is diluted in 10 cc saline and give the patient 3 cc

يحل امبول النالوفين فى محلول ملح الى 10 سم و يعطى المريض 3 سم فى الوريد مباشرة و يكرر بعد 5 دقائق

اذا لم يستجب المريض للعلاج يحول الى قسم جراحة المسالك بعد عمل الفحوصات اللازمة

قد يسبب النالوفين دوخة شديد (ما تقلقش)

Investigations

- Urine analysis
- X rays abdomen and pelvis
- Ultrasound abdomen and pelvis

التلاتة دول لاللازم يتعملوا

Treatment

Treatment of the cause

Take care

If there is **anuria** refer to urology **without fluids infusion**

Presence of stones → refer to urology department

Uremia

Indications of dialysis

Clinical indications

1. **Uremic encephalopathy** Disturbed conscious level cannot be explained by other cause
2. **Uremic asthma** Asthma resistant to usual bronchodilators
3. **Uremic persistent vomiting**
4. **Uremic pericarditis**
(chest pain ± pericardial rub) (dialysis with no heparin to avoid cardiac tamponade)

Laboratory indications

Creatinine clearance

- Less than 10 in non diabetic
- Less than 20 in diabetic

Urea and creatinine

- Urea more than 200
- Creatinine more than 10 in non diabetic
- Creatinine more than 8 in diabetic

Potassium

- Intractable hyper kalemia ≥ 7 mmol/L

Blood PH

- Intractable metabolic acidosis

History

- History of diabetes / HTN / recurrent UTI / stones / autoimmune diseases

Clinical presentation

C.N.S confusion / coma

G.I.T vomiting / hiccups / epigastric pain

Chest asthma / acidotic breath

Face pale / puffy / earthy look

Urinary system oliguria / anuria / polyuria

Investigations

- Urea and creatinine
- ABG / Na / K

Treatment

Correct vital data and dehydration

- Low flow O₂ if there is tachypnea
- Bronchodilators if there is wheeze
- Fluids infusion if the patient is dehydrated

Correction of acidosis

Na Bicarbonate

Number of ampoules = (deficit $\times \frac{1}{3}$ body weight)/25

Deficit = 22 - HCO₃ of the patient

- Give $\frac{1}{2}$ number of ampoules over 100 cc Ringer over 2 hours (30 drops / min)
- Give the other $\frac{1}{2}$ over 12 hours

Correction of hematological disorders (if needed)

Blood transfusion " وحدة كرات دم حمراء مكدسة من نفس الفصيلة بعد عمل التوافق "

Fresh frozen plasma " وحدة بلازما بشرية طازجة من نفس الفصيلة "

Correction of hyperkalemia

- Give one ampoule of Calcium over 100 cc ringer slowly
- Or give one ampoule of Calcium diluted in 10 cc ringer intravenously over 5 min)

NB give calcium in a cannula and Na bicarbonate in another cannula

لا تعطى الكالسيوم و الباي كارب فى نفس الخط لان الاتنين هيتحدوا و يكونوا مادة صلبة

Other drugs used

R/ Ketosteril tab (2 tablets thrice daily) (creatinine lowering drug)

R/ One alpha (one tab once daily)

R/ Deca – Durabolin amp (one ampoule every 3 weeks)

R/ Zantac amp (intravenous injection every 12 hours)

R/ Vitamin K ampoule (every 12 hours)

Investigations for dialysis

- PT and activity
- Virology (HBsAg / HCV Ig / HIV antibody)
- CBC

Insertion of

1. Urinary catheter
2. Central line

Acute hepatitis

Etiology

Viral hepatitis

- Hepato-Trophic viruses (A , B , C , D , E)
- Other viruses (EBV , CMV , HSV , Yellow fever virus)

Drugs and toxins

- Alcohol
- Paracetamol
- Halothane / INH

Symptoms

Pre-icteric stage (3 days : 2 weeks)

- **Fever** (acute onset)
- **Liver** (dull aching pain in the right hypochondrium and epigastrium)
- **G.I.T** (anorexia / nausea / vomiting)

Icteric stage (1 : 4 weeks)

- **Fever** (drop of fever / improvement of general condition)
- **Jaundice** (Dark urine / Pale stool / Jaundice)
- **G.I.T** (improvement)

Convalescence stage

Symptoms improve then disappear

Investigations

- AST / ALT
- Bilirubin (increased both direct and indirect)
- Alkaline phosphatase (elevated)
- Prothrombin time (prolonged)
- Urine and stool analysis
- Virology

Treatment

Bed rest

Diet

- **Fat** : must be restricted
- **Protein** : should be restricted
- **Carbohydrate** : high carbohydrate diet

Symptomatic treatment

- Glucose 5 % + Zantac amp + Primperan amp (IV infusion every 12 hours)
- R/ Perfalgan bottle (IV infusion every 12 hours)
- Nausea : R/ Primperan tab (twice daily)
- Pruritus : R/ Cholestran eff (one sachet over ½ cup of water twice daily)
- Gastritis : R/ Zantac 300 mg Tab (once daily 15 min before dinner)

Treatment of chronic hepatitis B and C

Hepatitis B virus

R/ Lamidine 100 mg tab (once daily for 1 year)

R/ Hepser 10 mg tab (once daily)

Hepatitis C virus

R/ Peg – interon amp (SC injection once weekly for 48 weeks)

R/ Viracure 200 or 400 mg caps (thrice daily)

Interferon

Types

Alpha – interferon

- Dose (10 million units in HBV and 3 million units in HCV)
- SC thrice weekly for at least 6 months
- Response occurs in 30 % of patients

Peglated – interferon

- Dose (180 microgram)
- SC once weekly for at least 6 months
- Response occurs in 60 % of patients

Side effects

1. Body fatigue
2. Depression
3. Bone marrow suppression

Interferon in Egyptian market

- Alpha – interferon (Proferon)
- Pegylated – interferon (Peg – interon)

Investigation required before interferon therapy

- PCR
- Liver function tests
- Abdominal ultrasound

Hepatic encephalopathy

- It is neuropsychiatric syndrome that may complicate severe liver disease

Precipitating factors

Much nitrogen load

- Excess dietary protein هاهاهاهاهاه
- Constipation هاهاهاهاه
- Azotemia
- GIT bleeding هاهاهاهاه

Metabolic disturbance

- Alkalosis
- Hypokalemia
- Hyponatremia
- Hypovolemia

Medications

- Narcotics (morphine) and Sedatives (benzodiazepine) هاهاهاهاه
- Diuretics (frusemide) هاهاهاهاه

Miscellaneous

- SBP هاهاهاهاه جدااا
- Surgery
- Severe vomiting or severe diarrhea هاهاهاهاه جدااا
- Transfusion of stored blood
- Tapping of ascites هاهاهاهاه
- TIPS

Clinical picture

Precoma

- Sleep disturbance
- Speech disturbance
- Apathy
- Asterixis
- Disturbed personality and behavior
- Disorientation for time, place and persons

Coma

Investigations

- Liver function tests
- Ultrasound abdomen and pelvis
- RBS
- ABG
- Sodium and potassium
- Ascetic fluid analysis
- Urea and creatinine

Treatment

- تركيب كانبيولات + سحب فصيلة دم + تركيب قسطرة بولية
- غذاء كبدى قليل الملح والبروتين
- حقنة شرجية كل 4 او 6 ساعات (750 ماء دافئ + 250 سم لاكتيولوز)
- 4 امبولات هيپاميرز + 2 امبول نتروليل علي 500 سم رينجر
- لاكتيولوز شراب من 15 الى 30 سم كل 8 ساعات
- زجاجة سيبرو كل 12 ساعة وريدى
- زجاجة فلاجيل كل 12 ساعة وريدى
- زجاجة امينوستيريل علي مدار 24 ساعة ببطء شديد
- زجاجة بيرفالجان كل 12 ساعة او عند ارتفاع الحرارة
- بوتاسيوم شراب 3 مرات يوميا
- كوناڊيون قرص واحد مرتين يوميا
- ليجالون قرص 3 مرات يوميا

Home treatment

- R/ Hepamerz sach. (one sachet over ½ cup of water twice daily)
- R/ Lactulose syrup (15:30 cc twice or thrice daily)
- R/ Enema (every 4 or 6 or 8 hours according to the clinical picture of the patient)
- R/ Bional tab (Liver support) (thrice daily)
- R/ Serviflox 750 mg tab (once weekly)
- R/ Inderal 40 mg tab (½ tab twice daily) (for portal hypertension)
- R/ Betolvex amp (IM injection once weekly)
- R/ Konakion 10 mg amp (IM injection once)
- R/ Omepak 20 mg tab (once daily 15 min before meal)

Subacute Bacterial Peritonitis (SBP)

Clinical picture

- Clinical picture of LCF
- **Sudden deterioration of a cirrhotic patient** and encephalopathy with no obvious ppt factor
- Tender abdomen
- Fever

Ascetic Fluid Analysis (AFA)

- Poly morph count usually exceeds 250 cells/cm
- Ascetic fluid culture usually positive for gram negative organisms

Treatment

R/ Cefotax 1 gm vial (twice every 12 hours for 5 days)

R/ Ciprofar 500 mg tab (once daily for prophylaxis)

Paracentesis

Indications

1. To relieve abdominal pressure from ascites
2. To diagnose spontaneous bacterial peritonitis
3. To diagnose metastatic cancer
4. To find blood in peritoneal space in trauma

Contra – indications

1. Hypotension
2. Prothrombin time (more than 21 seconds)
3. International normalized ration (more than 1.6)
4. Platelet count (less than 50000 cells/cc)
5. Pregnancy
6. Distended urinary bladder
7. Abdominal wall cellulitis
8. Distended bowel
9. Intra – abdominal adhesions

Investigations

- X – rays abdomen and chest
- Ultrasound abdomen and pelvis
- Prothrombin time and activity
- Platelets count

Precautions

Infusion of (Fresh Frozen Plasma or Hestril or Aminostril)

Tapping of (4:5 litres at one time)

Hepato – renal syndrome

Definition

Renal failure with normal renal histology occurring in patient with severe liver disease

Etiology

Decreased effective plasma flow (systemic VD / ascites / diuretics)

VC of the afferent renal arterioles (decreased vasopressin)

Precipitating factors

(diuresis / diarrhea / vomiting / infection / tapping of ascites / G.I.T bleeding)

Prognosis

Very bad prognosis and is usually fatal

Investigations

- Serum urea and creatinine
- Ultrasound abdomen and pelvis
- Ascitic fluid analysis

Treatment

- تركيب قسطرة بولية + كيس تجميع
- امبول دوبامين على 200 سم رينجر بمعدل 7 نقط في الدقيقة (بهذه الكيفية يعمل الدوبامين ك قابض للاوعية)
- 2 وحدة بلازما بشرية طازجة فى اليوم
- 2 وحدة الببومين فى اليوم
- ميدودرين قرص 3 مرات يوميا
- امبول ساندوستاتين تحت الجلد مرتين يوميا

Pancreatitis

Clinical picture

1. Severe upper abdominal pain radiating to the back
2. Nausea and vomiting
3. Blood pressure (elevated due to pain or decreased due to dehydration or bleeding)
4. Grey Turner's sign
5. Cullen's sign

Etiology

1. Gall stones are the most common cause
2. Alcoholics
3. Infections (viruses / bacteria / fungi / parasites)

Investigations

Serum amylase and lipase elevated

Urinary amylase elevated after 5 days

Ultrasound may show gallstones

Erect X - rays chest and abdomen exclude perforation / obstruction / chest complications

ESR / CRP elevated

Lipid profile elevated cholesterol and triglyceride

Liver functions test

Urea and creatinine

Na / K / Ca (total and ionized)

A.B.G

Treatment

ملخص العلاج

- لا شئ بالفم
- تركيب قسطرة وريدية مركزية
- اعطاء المحاليل بحيث يكون الـ CVP 8 – 12 سم ماء
- غيار يومي للقسطرة بملح وبيتادين يوميا
- 500 سم جلوكوز 5 % كل 12 ساعة
- زجاجة امينوليبيان وريدي كل 12 ساعة بمعدل 10 ن/ق
- 500 سم رينجر + امبول اداميل كل 24 ساعة
- زجاجة انتراليد (مضاف ليها 2 سم من زجاجة ملح بها امبول هيبارين) كل 24 ساعة بمعدل 7 ن/ق
- امبول ساندوستاتين تحت الجلد كل 12 ساعة
- امبول كالسيوم وريدي ببطء شديد كل 24 ساعة
- امبول بانتازول على 100 سم رينجر كل 12 ساعة
- سيفوتاكس 1 جم كل 12 ساعة
- ماجنابيوتك 1.2 جم كل 12 ساعة
- زجاجة فلاجيل كل 8 ساعات
- امبول برمبران وريدي كل 12 ساعة
- امبول بسكوبان وريدي كل 12 ساعة
- زجاجة برفالجان (عند ارتفاع درجة الحرارة) كل 12 ساعة

Tear gases

الغازات المسيلة للدموع (بمناسبة ثورة 25 يناير)

Complaint

- Dyspnea
- Excess secretions per nose and mouth
- **Dilated pupils**
- ± Convulsions and loss of consciousness

Treatment

1. R/ Mucogel susp (20 cc orally)
2. R/ Eucarbon tab (4 tablets orally)
3. If + convulsions → Neuril amp diluted in 100 cc saline over 30 min
4. Oxygen

Complaint

- Dyspnea
- Excess secretions per nose and mouth
- **Constricted pupils** هالام
- $\pm$ Convulsions and loss of consciousness

Treatment

1. R/ Mucogel susp (20 cc orally)
2. R/ Eucarbon tab (4 tablets orally)
3. If + convulsions $\rightarrow$ NeuriL amp diluted in 100 cc saline over 30 min
4. Oxygen
5. R/ Atropine amp (3 amps IV)
6. R/ Neostigmine amp (1 amp IM)

Allergy and Anaphylaxis**Diagnosis**

- History of allergy and anaphylaxis
- Puffiness / Redness / Sneezing / Angiedema
- Stridor / Hoarseness of voice / Asthma
- Tachy cardia / Hypotension / Shock
- Cramps / Diarrhea / Nausea / Vomiting
- Wheels / Itching

Ask for the casue

Management

Air way maintenance and clearance

Antigen remove the antigen / avoid it

Steroids and antihistamines

- Intravenous injection of (Avil + Dexta) ampoules

If Bronchospasm

- Inhalation set (2 cc saline + ampoule Atrovent + 1 cc Farcolin)

If Hypotension

- Intravenous saline infusion

Adrenaline فى الحالات الشديدة

- One ampoule diluted over 9 cc saline
- Give 3:5 cc subcutaneously
- Inject with the right hand and follow the pulse with your left hand

Home treatment

R/ Allerfen 180 mg tab once daily before bed time for 5 days قرص قبل النوم

R/ Apidone syrup 5 cm thrice daily for 5 days ملعقة كبيرة 3 مرات لمدة 5 ايام فقط

R/ Aciloc 150 mg tab once daily 15 min before dinner قرص قبل العشاء بربع ساعة

Convulsions (Fits)

Management

- Airway (Left lateral position / suction of secretions)
- O₂ mask
- Cannula
- Anti epileptic drugs

Anti epileptic drugs

Neuril amp

- One ampoule slowly intravenously then wait for 15 min
- If still → one ampoule diluted in 10 cc Ringer given slowly intravenously
- If still → 2 ampoules over 500 cc Ringer intravenous infusion

Depakene syrup (Na Valporate) rectally

يخفف الدواء بالماء بنسبة واحد الى سبعة

ثم يعطى 10 مل من الناتج من خلال انبوب رايل تم ادخاله بالمستقيم مسافة 4 سم

Use Neuril or Depakene syrup

What to be done later

Measure temperature (febrile convulsion / meningitis / SAH)

Random blood glucose (hypoglycemia / hyperglycemia)

Serum total and ionized calcium (hypocalcaemia)

Hypocalcemia

Clinical picture

Tingling of the hands / feet / around the mouth تتميل في الجسم كله خاصة حول الفم

Trousseau's sign (inflation of the sphygmomanometer cuff to more than systolic BP causes carpal spasm)

Chvostek's sign (tapping over the facial nerve produces twitching of the facial nerve)

Investigations

- Total and ionized calcium decreased
- PTH
- ECG prolonged QT interval

Management

- Calcium Gluconate amp over 100 cc ringer over 10 min (intravenous infusion)
- Can be repeated after 15 min
- Stop it if bradycardia developed
- Alkalosis may be reversed by rebreathing expired air in a pag

Home treatment

R/ Calcimate caps twice daily

R/ One alpha 0.25 once daily

Hysterical coma

Diagnosis

- History of psychic trauma
- No history of organic disease
- Stable vital data (Blood pressure / Temperature / RBS / Respiratory rate / vital colors)
- Fine movements of the eye lids " جفنه بيرمش "

Treatment

" قطعة من القطن مشبعة بالكحول ووضعها على فتحتى الانف فى نفس الوقت " Irritation of nasal mucosa by alcohol

" والطريقة دى فى ناس ما بتستخدمهاش لانها مؤلمة جدا " Injection of 3 cc alcohol or saline subcutaneously

Aphthous ulcer

Treatment

R/ Oracure gel (twice daily)

R/ Tantum verd P (lyzogens 4:6 times daily)

R/ Betolvex amp (IM injection once weekly)

± R/ Apidone syrup (thrice daily for 5 days)

Intestinal Bilharziasis

Etiology

Mainly due to *S. mansoni* and may be due to *S. hematobium*

Clinical picture

1. Bilharzial dysentery
2. Bleeding per rectum
3. Hepato – splenomegaly with portal hypertension
4. Anemia and clubbing

Investigations

1. Stool and urine analysis (schistosoma ova)
2. Serology (schistosoma antibody)
3. CBC (anemia and esinophilia)
4. Sigmoidoscopy (ulcers and polyps)

Investigations for complications

1. US abdomen and pelvis (periportal fibrosis / dilated portal vein / cirrhotic liver)
2. Liver function tests (elevated liver enzymes / hypo – albuminemia)
3. Chest x – rays (bilharzial COPD)

Treatment

R/ Distocide 600 mg tab (single oral dose annually) (20:40 mg/kg)

Symptomatic treatment

R/ Spasmodigestine tab thrice daily (for colicky abdominal pain)

R/ Haem – Caps (for treatment of anemia)

Ascaris lumbricoides

Route of infection

1. Ingestion of eggs in contaminated water and vegetables
2. Hatch in the duodenum and migrate through the lung to the bronchial trees
3. Swallowed to the small intestine

Clinical picture

1. Light infection is asymptomatic
2. Ascaris pneumonitis (fever / cough / dyspnea / wheeze)
3. Abdominal colicky pain
4. Malabsorption and may be intestinal obstruction

Migrations

1. Large intestine (expelled from the anus)
2. Back to the stomach (vomiting)
3. Common bile duct (obstructive jaundice)
4. Common pancreatic duct (acute pancreatitis)
5. Intestinal perforation (peritonitis)

Investigations

Stool analysis (ascaris ova / ascaris adult worm)

Plain x – rays and barium study (show worms inside the intestine)

Treatment

R/ **Verm** – 1 500mg tab (one tab single dose repeated every 10 days)

Or R/ **Vermox** tab (one tab twice daily for 3 days)

Or R/ **Bendax** tab (one tab twice daily for 3 days)

Entrobis vermicularis = pinworm

Clinical picture

1. Asymptomatic
2. Nocturnal pruritus ani
3. Vulvitis and urethritis in females
4. Nocturnal enuresis

Investigation

Repeated stool analysis

Treatment

R/ **Verm** - 1 500mg tab (one tab single dose repeated every 10 days)

Or R/ **Vermox** tab (one tab twice daily for 3 days)

Or R/ **Bendax** tab (one tab twice daily for 3 days)

Taneia = Tape worm

Clinical picture

1. Abdominal pain
2. Diarrhea / Constipation

Treatment

R/ Distocide 600 mg tab once dialy

Or R/ Yomesan chew tab (4 tablets in the 1st day then 2 tablets once daily for 6 days)

Ankylostomiasis = Hook worm

Route of transmission

1. Contact with contaminated soil
2. Oral ingestion of infective larvae

Clinical picture

Asymptomatic

Skin lesion itching / dermatitis

Pulmonic manifestations fever / dry cough / mild asthmatic wheeze

Intestinal manifestation nausea / vomiting / diarrhea / abdominal pain

Investigation

1. Stool analysis (ova in stool)
2. CBC (anemia / esinophilia)

Treatment

R/ **Verm** - 1 500mg tab (one tab single dose repeated every 10 days)

Or R/ **Vermox** tab (one tab twice daily for 3 days)

Or R/ **Bendax** tab (one tab twice daily for 3 days)

Fascioliasis

Clinical picture

1. Fever
2. Tender hepatomegally
3. Eosinophilia

Investigation

1. Stool analysis (fasciola ova)
2. Serology
3. CBC (marked eosinophilia)

Treatment

R/ Distocide 600 mg tab (thrice daily for 3 days)

Intestinal amebiasis

Clinical picture

1. Acute diarrhea (recurrent attacks of diarrhea)
2. Abdominal colicky pain
3. Tenesmus
4. Passage of blood and mucous in the stool
5. Flatulence

General condition (No fever / No toxemia / No dehydration)

Investigations

Stool analysis show E. histolytica vegetative form or cyst form

Treatment (specific)

Vegetative form

R/ Flagyl 500 mg tab (thrice daily for 10 days then repeat the course after 10 days)

Cyst form

R/ Furazole tab (thrice daily for 7 days then repeat the course after 10 days)

Treatment (symptomatic)

Abdominal colicky pains and diarrhea

R/ Streptoquine tab (one tablet thrice daily)

Giardiasis

Clinical picture

1. Abdominal pain
2. Diarrhea / Steatorrhea
3. Excessive gas and bloating
4. Nausea / decreased appetite / weight loss

Investigations

Stool analysis (show Giardia)

Treatment

R/ Flagyl 500mg tab (one tablet thrice daily for 10 days)

R/ Antinal caps (one capsule thrice daily for 10 days)

Bacillary dysentery

Organism Gram negative organism (shigella bacilli)

Clinical picture

1. Acute diarrhea (watery diarrhea with frequent motions)
2. Abdominal colicky pain
3. Tenesmus
4. Passage of excessive pus, mucous and blood in the stool

General condition (fever / toxemia / dehydration)

Investigations

Stool analysis (excessive WBCs and RBCs)

Stool culture (may demonstrate the organism)

Treatment (specific)

R/ Ciprofloxacin 500 mg tab (twice daily for 5 days)

Treatment (symptomatic)

Abdominal colicky pains and diarrhea

R/ Streptoquine tab (one tablet thrice daily)

Dehydration

Excess oral fluid and intravenous fluids in severe cases

Constipation

Definition

Infrequent passage of hard stool

With straining / sensation of incomplete evacuation / perianal or abdominal discomfort

Gastrointestinal causes

Diet : Lack of dietary fibre and low liquids intake

Altered motility : Irritable bowel syndrome

Structural : Colonic carcinoma / Hirschsprung's disease

Obstructed defecation : Intestinal obstruction / Anal fissure

Non gastrointestinal causes

Drugs

Opiates / Anticholinergics

Endocrinal and metabolic

Hypothyroidism / Hyperparathyroidism / Hypokalemia / Hyperkalemia

Neurological

Multiple sclerosis / Paraplegia

History

Ask about absolute constipation and vomiting → intestinal obstruction

Ask about very painful defecation → anal fissure

Ask about bleeding and mass appears with defecation → hemorrhoids

Ask about bleeding alone → may be colonic cancer

Examination

Palpation : a palpable lumps of stool may be detected on palpation

Auscultation : mad abdomen in intestinal obstruction

DRE : Fissures / Hemorrhoids / Hard fecal mass / Hard mass

Investigation

According to the case, investigations are required

Abd. US / Stool analysis / Barium enema / Colonoscope / Routine biochemistry with serum Ca / Thyroid functions

Treatment of the cause

Treatment (Symptomatic)

Diet

زبادي مضاف اليه 2 ملعقة رده وملعقة عسل - كميته وفيه من الخضروات والفواكه - حليب بارد محلي بالعسل

كميته وفيه من السوائل

يفضل تجنب الموز - الجوافه - التفاح - الشاي

التوجه مباشرة لقضاء الحاجة عند الشعور بالحاجة ... تأخر هذه الحاجة يؤدي الي توسع المستقيم والامساك

Regular physical exercise ممارسة الرياضة بانتظام

Laxatives

Form	Egyptian market	Dose
Drops	R/ Picolax	10:15 drops daily
Effervescent	R/ Biolax R/ Agiolax	One sachet with half glass of water once or twice daily
Syrup	R/ Lactulose	15ml thrice daily
Suppositories	R/ Glycerin adult	Once or twice daily
Tablets and capsules	R/ Purgaton R/ Evaculax	1:2 tab at bed time Twice or thrice daily
Enema	R/ Enema R/ Enemax	4:6 hourly In cases not responding to the above drugs

Irritable Bowel Syndrome

القولون العصبي

Definition

Group of abdominal symptoms with no organic cause

Etiology

Anxiety / Depression / Stress

Clinical picture

Pain

Chronic / crampy / esp. left iliac fossa / ↑ by meals and stress / ↓ passage of flatus or stool

Tenderness

Over the left iliac fossa / spastic sigmoid colon may be palpable

Irritable motions

Chronic constipation or diarrhea or both / Tenesmus / Ribbon like stools

Person

Features of anxiety or stress

Investigations

Irritable bowel syndrome is essentially a **clinical diagnosis**

Investigations are done to exclude organic causes

Stool analysis / **abd US** / **Barium enema** / **Colonoscopy**

Treatment

R/ Cloxide caps كبسولة 3 مرات قبل الاكل

R/ Motil Fast sachet كيس على نصف كوب ماء 3 مرات قبل الاكل

Ulcerative colitis

Definition

A chronic inflammatory disorder of the **mucosa of the colon**

Pathology

Diffuse / continuous / superficial inflammation of the superficial mucosa only

Clinical picture

Clinical picture is characterized by exacerbation and remission of these symptoms :

Intestinal manifestation

1. Bleeding per rectum
2. Diarrhea with mucous
3. Tenesmus
4. Lower colicky abdominal pain

Extra – intestinal manifestation

1. General (fever / anemia)
2. Eye (conjunctivitis / iridocyclitis)
3. Skin (erythema nodosum / pyoderma gangrenosum / vasculitis)
4. Joint (arthritis)
5. Liver (hepatitis / hepatomegaly / gall stones)
6. Kidney (calcium oxalate stones)
7. Lungs (interstitial pulmonary fibrosis)

Precipitating factors (NSAIDs or nervous stress)

Investigations

1. Stool analysis and culture (WBCs and RBCs)
2. Colonoscopy
3. Barium enema
4. Blood tests (anemia / leucocytosis / abnormal liver functions)

Medical treatment

R/ Hostacortin H tab (one tablet thrice daily)

R/ Salazopyrin tab

(2:4 tablets 4 times daily for one month) then (one tablet 4 times daily for 6 months)

R/ Azathioprine tab (once daily) (immuno – suppressive in severe cases)

Typhoid

Incubation period

- 1:3 weeks

Complaint

- FAHM
- Abdominal pain
- Early diarrhea and late constipation
- Macula-papular rash usually on the 5th day
- Patient is very sick / confusion / delirium at the end of the 1st week

On examination

- High Fever with relative bradycardia
- Spleen : mildly enlarged / soft / tender

Investigations

- CBC → relative leucopenia
- Blood culture → +ve during the 1st week
- **Widal test** → +ve during the 2nd and 3rd week
 - ✓ High titre of O > 360 → active infection
 - ✓ High titre of H → past infection or past immunization

Treatment

Non pharmacological treatment

- Complete bed rest
- Soft diets
- Excess fluids intake
- Cold sponge

Pharmacological treatment

R/ Ciprofloxacin 500 mg twice daily (every 12 hrs) for 10:14 days

Or R/ Ceftriaxone 1000 mg once daily for 10:14 days

R/ Paracetamol 500 mg twice daily

Brucellosis

Complaint

- Fever (elevated temp. for some days followed by normal temp. for some days and so on)
- Joint pain and muscle pain
- Anemia / Headache / Depression

Route of infection

- Infected milk products
- Infected undercooked meat
- Close contact with infected animal secretion

Investigations

- Blood culture
- Brucella antibody rising titre

Treatment

R/ Doxy MR 100 mg

Twice or thrice daily for 2 months

R/ Gentamycin amp

One amp every 24 hrs for 7 days

Toxoplasmosis

Causative organism Toxoplasma gondii

Route of infection Ingesting undercooked meat

Symptoms

1. Fever
2. Confusion
3. Headache
4. **Focal signs** due to multiple mass lesions within the cranium
5. **Recurrent abortion**

Investigations

1. Toxoplasma Ab test
2. CT brain

Treatment

First 6 weeks

R/ Clindamycin 600 mg 4 times daily for 6 weeks + Pyrimethamine 75 mg once daily

Maintenance dose

Sulphadiazine 500 mg 4 times daily + Pyrimethamine 25 mg once daily

Treatment can be stopped if a sustained immune recovery is seen

Egyptian market

Clindamycin = Clindam 150 or 300 mg caps

Pyrimethamine = Daraprim 25 mg tablets

Familial Mediterranean Fever

Clinical picture

1. Attacks of fever
2. Abdominal pain (peritonitis)
3. Chest pain (pleurisy)
4. Typical acute attack lasts for 12 – 72 hours
5. Arthritis up to one week

Investigations

FMF gene غااااالى جدا

Elevated ESR/CRP/Amyloid A

Treatment

R/ Colchicine 0.5 gm tablet thrice daily

Complaint

- Pain in the meta-tarsophalangeal joint of big toe
- Acute onset of mono-articular pain
- Urate deposition in SC tissue, bone and cartilage

Investigations

Synovial fluid aspiration urate crystals deposition

Serum uric acid elevated ممكن يطلع نورمال حتى لو المريض مصاب بالنقرص

Urine analysis elevated urate crystals

Treatment during the attack

Complete bed rest for 24 hrs or until subsidence of symptoms

R/ Cataflam 50 mg tab قرص 3 مرات بعد الاكل

R/ Colchicine 0.5 mg tab قرص كل 8 ساعات

Or R/ Hostacortin 5 mg tab فى الحالات الشديدة التى لا تستجيب للدوية السابقة

7 tabs at morning and 5 tabs at evening then gradual withdrawal over 7 days

Treatment in-between the attacks

R/ Colchicine 0.5 mg tab twice daily

R/ No Uric 100 mg tab once daily until uric acid decreases below 7 mg%

Diet

الاكثار من شرب الماء (2 لتر يوميا)

تجنب الشاي والقهوة والكولا والاسبرين والثيازيد

التقليل من اكل البروتينات

انقاص الوزن

Osteoarthritis

Complaint

- Joint pain usually in old age

Investigations

- X-Rays
- MRI

Treatment

R/ Mobital 15 mg tab قرص مرتين او ثلاث مرات بعد الاكل

R/ Alphintern tab قرص 3 مرات قبل الاكل بساعة او بعد الاكل بساعتين

R/ Dorofen caps قرص كل 12 ساعة لمدة 3 شهور

± R/ Rheumarene amp (6 ampoules) حقنة عضل مره واحدة يوميا

Cervical radiculopathy

Complaint

- Bilateral or unilateral painful movement of shoulders or arms
- Painful movement of the neck radiating to shoulders and arms

Investigations

- Neck X-rays
- MRI cervical vertebrae

Treatment

R/ Dimra tab قرص كل 12 ساعة بعد الاكل

R/ Tegretol 200 mg TCR قرص مره واحدة قبل النوم

R/ Rheumarene amp (6 ampouls) حقنة عضل مره واحدة يوميا لمدة 6 ايام

R/ voltaren gel دهان موضع الالم صباحا و مساء

Achilis tendinitis

Complaint

- Pain in the calf muscle
- Painful dorsiflexion of the ankle

Treatment

R/ Dimra tab twice daily after meals

Dimra = (muscle relaxant + analgesia)

R/ Voltaren gel twice daily

± R/ Alphintern tab (قرص 3 مرات قبل الاكل بساعة او بعد الاكل بساعتين) (يعنى على معدة فارغة)

Reactive arthropathy

Complaint

Joint pain with/without bony pain following GIT / Urinary / Chest infection

Treatment

- Suitable antibiotic
- Analgesic anti-inflammatory

Rheumatoid arthritis

Diagnosis

- Clinical picture of rheumatoid arthritis
- Rheumatoid Factor (positive)
- ESR (more than 100)
- CBC (↓ RBCs .. ↓ WBCs .. ↑ Platelets)

Treatment

R/ Hosacortin 5 mg tab

الجرعة تتراوح من (3 ق صباحا و 2 مساء) الى (7 ق صباحا و 5 ق مساء) على حسب شدة الحالة
و يسحب الكورتيزون بالتدريج بازالة قرص من الجرعة المسائية اولا ثم ازالة قرص من الجرعة الصباحية

R/ Hydroquine 200 mg (2 tablets once after meal)

± R/ Methotrexate amp فى الحالات الشديدة التى لم تستجيب للجرعة الكبرى للكورتيزون

- 1.25 cc once weekly
- Contraindicated in pregnant and lactating females

If Methotrexate is indicated → R/ Folic acid 500 µg 2 : 4 tablets daily

R/ Calcimate 500 twice daily after meals

R/ Omeprazole 20 mg (once daily at evening 15 min before meal)

R/ Norgesic tab thrice daily after meals

Treatment of active attack

R/ Synacthene amp حقنة عضل مره واحدة فقط (كورتيزون طويل المفعول)

R/ Epidural vial حقنة عضل او وريد كل 12 ساعة لمدة 3 ايام

Systemic sclerosis

Complaint

- Skin stiffness
- Arthritis
- Dysphagia

Investigations

- Anti RNP “ Ribo Nuclear Protein “
- ANA
- Anti ds DNA

Treatment

R/ Hostacortin 5 mg tab

الجرعة تتراوح من (3 ق صباحا و 2 مساء) الى (7 ق صباحا و 5 ق مساء) على حسب شدة الحالة
و يسحب الكورتيزون بالتدريج بازالة قرص من الجرعة المسائية اولا ثم ازالة قرص من الجرعة الصباحية

R/ Hydroquine tab قرصين مرة واحدة يوميا

R/ Colchicine 0.5 mg tab قرص كل 12 ساعة

R/ Virecta tab (once daily)

R/ Motilium tab قرص 3 مرات قبل الاكل بربع ساعة

Behcet's disease

Diagnosis

- Recurrent oral ulcers
- Recurrent genital ulcers
- Iritis or conjunctivitis

Treatment

R/ Colchicine 0.5 mg tab twice daily after meals

R/ Hostacortin 5 mg tab

الجرعة تتراوح من (3 ق صباحا و 2 مساء) الى (7 ق صباحا و 5 ق مساء) على حسب شدة الحالة
و يسحب الكورتيزون بالتدريج بازالة قرص من الجرعة المسائية اولا ثم ازالة قرص من الجرعة الصباحية

R/ Calcium eff (one sachet over 100 cc water once or twice daily)

R/ Omepak 20 mg (once daily at the evening 15 min before meal)

R/ Epicotil 20 mg tab twice daily after meals

R/ Immuran 50 mg tab twice daily

R/ Vitamin B complex twice daily

R/ Tryptizol 25 mg tab once daily before bed time

Myositis

Complaint

- Muscle pain
- Usually follow severe muscular exercise

Treatment

R/ Voltaren gel twice daily

R/ Myolgin caps twice daily

± R/ Rheumarene amp (6 amps) 6 ايام حقنة عضل مره واحدة يوميا لمدة 6 ايام

Mild Disc prolapse

Treatment

R/ Dimra tab قرص كل مرتين او 3 مرات يوميا بعد الاكل

R/ Tegretol 200 mg TCR قرص مره واحدة قبل النوم

R/ Voltaren gel دهان موضع الالم صباحا و مساء

R/ Alphintern tab (thrice daily one hour before meals or 2 hours after meals)

- Weight reduction التقليل من وزن الجسم بمتابعة نظام غذائي معين
- Regular exercise ممارسة التمرينات الرياضية يوميا و المواظبة عليها
- Physiotherapy علاج طبيعى

Muscle spasm

Treatment

R/ Norflex amp (6 ampoules) حقنة عضل كل 24 ساعة

R/ Voltaren gel دهان موضع الاصابة صباحا و مساء

R/ Dimra tab قرص مرتين او 3 مرات يوميا بعد الاكل

Hypothyroidism (Myxoedema)

Etiology

Primary

1. Endemic myxoedema (prolonged iodine deficiency)
2. Goitrogenous substances (cabbage/some cough preparations/PAS/amiodarone)
3. Hashimoto's disease (auto-immune)
4. Sub-acute viral thyroiditis
5. Thyroidectomy

Secondary

- Pituitary myxoedema (TSH)

Clinical picture

General

1. Intolerance to cold
2. Tiredness / weakness / weight gain
3. Puffy eye lids / loss of outer third of eye brows
4. Dry, cold and non sweaty skin

CNS

1. Slow cerebration / poor memory / apathy
2. Slurred speech / hoarseness of voice
3. Peripheral neuritis

CVS

1. Hypertension
2. Bradycardia
3. Cardiomyopathy
4. Low voltage ECG

GIT

1. Dyspepsia
2. Constipation

Blood

- Anemia

Genital

1. Impotence
2. Gynaecomastia
3. Menorrhagia

Investigations

1. **TSH** high in thyroid failure / low in pituitary failure
2. **Free T₃ and T₄** low
3. **CBC** anemia
4. **ECG** low voltage ECG

Treatment

R/ Eltroxin 50 or 100 mcg tablets once or twice daily

Start with 50 mcg to be increased to 200 mcg according to clinical response

نبدأ العلاج بقرص 50 ميكرو و نزود الجرعة على حسب الاستجابة الاكلينيكية للمريض بحد اقصى 200 ميكرو

Treatment of Myxoedema coma

1. Gradual rewarming
2. Oxygen support
3. IV glucose for hypoglycemia

Drugs

1. R/ Eltroxin tablets oral or by nasogastric tube
2. Hostacortine
3. Anti – Biotics for infections

Osteoporosis

Complaint

Osteoporosis is **asymptomatic** unless it causes fragility fracture

It is common in **old age** and **after menopause**

Investigations

- DEXA of the lumbar spine and hip bones
- Serum calcium and phosphate

DEXA Dual Energy X-ray Absorptiometry

Treatment

R/ Risedene 35 mg tab

(once weakly / 30 min before food / with excess amount of water / and rest for 30 min after ingestion)

R/ Bonapex 70 mg tab

(once weakly / one hour before or after meals / with excess amount of water)

طبعاً بنستخدم علاج واحد فقط من العلاجين السابقين

المريض بياخذ قرص قبل الاكل بنصف ساعة بكمية وفيرة من المياه

و يستريح المريض نصف ساعة فى الوضع جالسا

تكرار العلاج مره واحدة اسبوعيا

R/ Calcimate (thrice daily)

Hyperparathyroidism

Complaint

- Severe muscle weakness / tiredness / malaise
- Dehydration
- Depression
- Hypertension
- Stones / renal colic / polyuria / nocturia / hematuria

Investigations

- **PTH** elevated
- **Serum Calcium** elevated
- **Phosphates** depressed
- **Serum TSH**
- **09:00 h cortisol and/or ACTH**
- US and CT or MRI

Treatment

- High fluids intake **should be maintained**
- High calcium and vitamin D intake **should be avoided**
- Exercise should be encouraged

R/ Miacalcic 100 amp (subcutaneous injection or intramuscular day on and day off)

حقنة (كالسيتونين) تحت الجلد او عضل يوم بعد يوم

R/ Vi Drop (20 drops over a cup of milk once daily at the morning)

20 نقطة على كوب لبن مره واحدة صباحا

Miacalcic = Calcitonine

Benign Prostatic Hyperplasia (BPH)

Complaint

Irritative symptoms

- Dysuria and frequency

Retention symptoms

- Difficult urination and weak urine stream

Investigations

- Urine analysis
- Ultrasound abdomen and pelvis

Treatment of BPH

R/ Cordura 1 or 4 mg tab

قرص مره واحدة قبل النوم طول العمر

Treatment of UTI

R/ Ciprofar 500 mg

قرص مرتين يوميا لمدة 10 الى 14 يوم

R/ Rowatinex caps

كبسولة كل 8 ساعات

R/ Buscopan Compositum tab

قرص كل 8 ساعات

Acute cholecystitis

Complaint

1. Acute abdominal pain in the upper right quadrant and/or epigastrium
2. pain is sever and lasts for several hours
3. Nausea / vomiting / anorexia / dyspepsia / heart burn
4. Low grade fever

Examination

1. Tenderness over the **right hypochondrium**
2. Pain may refere to the back or to the right shoulder
3. Related to meals specially fatty meals
4. Positive **murphys sign**

Investigations

U/S abdomen and pelvis هام جدا جدا

plain x-rays and TLC

Treatment during attack

Analgesics

R/ Adolor 30ml amp IV

Spasmolytics

R/ Visceralgine amp

Other drugs

Zantac amp for gastritis / **Primperan** amp for nausea and vomiting

ممکن تحت الامبولات دی کلها علی محلول جلوكوز 5% او محلول ملح او رينجر

فی الحالات الشديدة من المغص المراری من الممكن استخدام **النالوفين** (وهو من ادوية الجدول)

یحل **النالوفين** الى 10 سم ویعطی المريض من 2 الى 6 سم

Treatment inbetween attacks

Avoid fatty meals

R/ CONAZ tab قرص كل 12 ساعة لمدة 10 ايام الى اسبوعين

R/ Rowachol caps single dose at bed time

R/ Petro tab قرص مرتين او ثلاث مرات يوميا

Petro is analgesic and spasmolytic

Surgical treatment : if no response after 10-15 days of medical treatment

Appendicitis

Diagnosis

MANTREAL score

M : migratory abdominal pain from umbilicus to the right iliac fossa **(1)**

A : anorexia **(1)**

N : nausea **(1)**

T : tenderness in the right lower quadrant **(2)**

R : rebound tenderness **(1)**

E : elevated temperature low grade **(1)**

A : associated signs (psoas / obturator / crossed tenderness) **(1)**

L : leucocytosis TLC > 12000 **(2)**

Total score

(<6) → discharge

(6:8) → close observation and rescore

(>8) → appendicectomy

Investigations

1. TLC
2. CRP
3. urine analysis
4. U/S abdomen and pelvis

Urine analysis : to exclude renal stones or infection

Conservative treatment (<6)

500ml 5% glucose + spasmolytic + antibiotic cefotax 1gm every 12hrs

Rheumatic Fever

Diagnosis

1. Two major criteria
2. One major + two minor criteria

Major criteria

Arthritis

1. Affects large joints
2. Migrating in character
3. Limitation of joint movement
4. Joint is (Red / Hot / Swollen / Painful)
5. Dramatic response to salicylates

Carditis

1. Endocarditis → murmurs
2. Myocarditis → tic-tac rhythm and may be heart failure
3. Pericarditis → dry or with effusion

Chorea

1. Rapid involuntary movement
2. More common in females
3. Never associated with arthritis

Subcutaneous nodules

1. Small painless
2. Over bony prominence and tendons
3. Not adherent to the skin

Erythema marginatum

1. Erythematous spots
2. Over trunk and proximal extremities in croups

Minor criteria

Acute phase reactant (Positive CRP / elevated ESR / Leukocytosis)

A.S.O.T Elevated

ECG Prolonged PR interval

Arthralgia

Present fever

Investigations

A.S.O.T / **ECG** / **CRP** / **CBC** / **CRP** / **Echo** / **CXR**

Treatment

Rest Complete bed rest until signs of inflammation disappear

Diet Small frequent light diets poor in salt

Anti - biotics

R/ Retarpen 1.2 MIU single IM injection

Or R/ Erythromycin 250 mg tablet every 6 hours (**in patient allergic to penicillin**)

Anti - inflammatory in arthritis

R/ Aspirin tablet (3 tab twice daily for 2 weeks) then (2 tab twice daily for 2 weeks)

R/ Antodine 20 mg tablet once daily 15 min before dinner

Anti - inflammatory in carditis

R/ Hostacortine H 5 mg tablet

1 mg/kg/day in 4 divided doses for 4 weeks then gradual withdrawal in 4 weeks

R/ Antodine 20 mg tablet once daily 15 min before dinner

Treatment of chorea

R/ Safinace 1.5 or 5 mg tablet once daily

Prophylaxis

1. Proper management of pharyngeal infection
2. Tonsillectomy for chronically infected tonsils

Long acting penicillin 1.2 million units given monthly

- Until the age of 25 or for 5 years after the last attack(whichever is longer)
- For long life if there is cardiac affection

Infective endocarditis

Infection + underlying heart disease

Infection

1. Gram positive (Strept. viridians / Strept. fecalis / Staph. aureus)
2. Gram negative (Hemophilus / Klebsiella / Pseudomonas)
3. Other (Fungi / Rickettsiae / Chlamydia)

Underlying heart disease

1. Valvular diseases
2. Congenital heart diseases
3. Prosthetic valve

General manifestations

Temperature FAHM

Pulse Tachycardia (may be absent if embolized)

Eyes Conjunctival petechiae / sudden blindness if embolization

Upper/Lower limbs Pale clubbing / Osler's nodules / splinter hemorrhage

Cardiac manifestations

Murmurs New murmurs or change in the character of the old murmur

Heart failure Manifestations of heart failure may develop

Investigations

Echocardiography (TOE)

- Will detect vegetations and underlying heart lesions

Blood culture

CBC

1. Anemia
2. Leukocytosis
3. Elevated ESR

Treatment

Complete bed rest

Empirical anti-biotics

R/ Unasyn 1.5 gm vial twice daily IV

R/ Cefotax 1 gm vial twice daily IV

R/ Flagyl bottle IV infusion thrice daily

Analgesics and anti-pyretic

R/ Perfalgan bottle IV infusion twice daily

Myocarditis

Etiology

1. **Viruses** Coxsackie / Adenoviruses / Influenza
2. Bacterial / Fungal / Rickettsia / Parasitic
3. Drug hypersensitivity
4. Auto-immunity

Clinical picture

1. **CHEST PAIN**
2. Congestive heart failure (congested neck veins / hepatic congestion / LL oedema)
3. Palpitations (due to arrhythmias)
4. Fever (specially when infectious)
5. Sudden death

Investigations

ECG

1. Diffuse T wave inversion
2. Saddle shaped ST segment elevation

Chest X – rays

1. Show normal cardiac shadow
2. Cardiomegally in congestive heart failure

Echo – cardiography

1. Impaired LV systolic and diastolic functions
2. Impaired ejection fraction
3. Pericardial effusion may be present

MRI for accurate diagnosis

Elevated (ESR / CRP / Cardiac enzymes / Leukocytes / LDH)

Treatment

Complete bed rest

ACE inhibitor

R/ Tritace 2.5 mg tablets (once or twice daily)

Calcium channels blockers

R/ Alkapress 5 or 10 mg tablets (once daily)

Diuretics

R/ Lasix 20 mg ampoule (IV injection twice daily)

Alpha and Beta blockers

R/ Carvid 6.25 mg tablets (twice daily)

Cardiac inotropics

R/ Lanoxin 0.25 mg tablets (½ : 2 tablets once or twice daily)

Suitable antibiotics

R/ Cefotax 1 gm vial (IM or IV twice daily)

Corticosteroids in auto-immune

R/ Synacthen amp (IM injection)

Angina pectoris

Etiology

Decreased quantity of coronary blood

1. Coronary atherosclerosis (**the most common disease**)
2. Arteritis (PAN / SLE)
3. Blood disease (PRV / DIC)
4. Congenital anomalies (coronary artery stenosis)
5. Dissection
6. Emboli
7. Spasm of the coronaries (good prognosis)
8. Low cardiac out put (aortic stenosis)

Decreased quality of coronary blood

1. Anemia
2. Hypoxia

Increased myocardial oxygen demand

1. Ventricular hypertrophy
2. Hyperdynamic circulation
3. Systemic hypertension
4. Tachycardia
5. Severe stress

Clinical picture

CHEST PAIN

Site : diffuse retrosternal pain

Reference : shoulders / arms / forearms / neck / jaw / back / epigastrium

Precipitated by : severe stress / cold weather / coitus / heavy meals

Relieved by : rest / sublingual nitrates

Associated symptoms : sweating / nausea / vomiting / palpitation / dizziness / dyspnea

Types

Stable angina

Pain with constant severity and relief

Unstable angina

1. Crescendo angina (increased frequency / severity / duration)
2. Angina at rest
3. Angina resistant to therapy

Prinzmetal angina

Angina at rest caused by spasm of the coronaries

Investigations

Standard ECG

Normal in between the attack

During the attack

1. Depressed ST segments
2. Elevated ST segments in Prinzmetal angina
3. Inverted T wave
4. Arrhythmias or heart block

Exercise ECG

Test is positive for myocardial ischemia if

1. Typical chest pain occurs
2. ST segment depression occurs
3. Ventricular arrhythmia occurs

Exercise ECG is contra-indicated in

1. Significant aortic stenosis → (exertional syncope)
2. Severe hypertension → (intra-cranial hemorrhage)
3. Congestive heart failure → (need complete bed rest)
4. Unstable angina and recent myocardial infarction

Cardiac catheterization

Indications

1. Angina not responding to medical treatment
2. Unstable angina
3. Post infarction angina
4. Strongly positive exercise test
5. Angina indicated for coronary revascularization
6. Recurrent chest pain of uncertain etiology
7. Refractory ventricular arrhythmias

Exercise ECHO

Treatment during the attack

Complete REST

Sublingual NITRATES

R/ Dinitra 5 mg tablets

Repeat the dose every 5 minutes till pain disappears (maximum dose 15 mg)

Morphine

Morphine is the drug of choice in chest pain refractory to nitroglycerine

Treatment in between the attack

Non-pharmacological therapy

1. Avoid the precipitating factors
2. Stop smoking
3. Limitation of cholesterol and saturated fat
4. Small light frequent meals
5. Regular exercises

Pharmacological treatment

Triple therapy (Nitrates / Beta blockers / Calcium channels blockers)

Anti-platelets and/or Anti-coagulants

Nitrates

Nitroglycerines thrice daily orally

R/ Nitromack Retard 2.5 or 5 mg capsules

Isosorbide mononitrates twice daily orally

R/ Monomack 20 or 40 mg tablets

Isosorbide dinitrate twice daily orally

R/ Dinitra 5 or 10 or 20 mg tablets

Beta blockers

R/ Ateno 50 or 100 mg tablets once daily

Calcium channels blocers

R/ Alkapress 5 or 10 mg tablets once daily

Anti-platelets

R/ Aspocid 75 mg tablets

R/ Aspirin protect 100 mg tablets

Dose 75:300 mg once daily (مرة واحدة يوميا بعد العشاء)

Choice of drug therapy

1. Begins with nitrates
2. For stable exertional angina add Beta blockers or Calcium channels blockers
3. For recurrent angina on 2-drug therapy apply triple therapy
4. For unstable angina heparin and aspirin are most important

Treatment of the cause (Hypertension / AS / Anemia / Thyrotoxicosis)

Treatment of risk factors (Dyslipidemia / Obesity / Diabetes / HTN)

Heart failure

Definition

It is a **clinical syndrome** / resulting from inability of the heart to pump enough blood sufficient to meet metabolic needs of the body

Etiology

Causes of left atrial failure

1. Mitral stenosis
2. Atrial myxoma

Causes of right atrial failure

1. Tricuspid stenosis
2. Atrial myxoma

Causes of left ventricular failure

1. Systemic hypertension
2. Aortic stenosis / Aortic regurge / Mitral regurge / VSD
3. Hyper dynamic circulation
4. Myocardial infarction / Myocarditis / Cardiomyopathy
5. Cardiac tamponade / Constrictive pericarditis

Causes of right ventricular failure

1. Pulmonary hypertension (LVF / COPD / PE)
2. Pulmonary stenosis / pulmonary regurge / Tricusped regurge / ASD
3. Hyper dynamic circulation
4. Myocardial infarction / Myocarditis / Cardiomyopathy
5. Cardiac tamponade / Constrictive pericarditis

Precipitating factors

- **Infection** (any infection esp. infective endocarditis / rheumatic activity / chest infection)
- **Iatrogenic** (corticosteroids / CCBs / Excessive salt intake and IV fluids)
- **Acute myocardial infarction**
- **Arrhythmias**
- **Anemia .. thyrotoxicosis and other causes of hyperdynamic circulation**
- **Physical and emotional stress**
- **Pregnancy and late labour**

Manifestations of low cardiac output

These occur in **left or right sided heart failure or both**

Brain (dizziness / headache / syncope)

Eyes (blurring of vision)

Heart (angina pectoris)

Kidneys (oliguria)

Muscles (easy fatiguability / intermittent claudication)

Skin (pallor / coldness / peripheral cyanosis in sever cases)

Manifestations of pulmonary congestion

Occur in **left sided heart failure**

1. Dyspnea
2. Cough
3. Hemoptysis
4. Recurrent chest infection
5. Pleural effusion
6. Fine basal bilateral crepitation

Manifestations of systemic venous congestion

These occur in right sided heart failure

Neck (congested pulsating neck veins)

Liver (right hypochondrial pain)

Lower limb (oedema in the dependant parts (lower limbs or sacrum))

Examination in LSHF

Blood pressure

- Low systolic blood pressure

Pulse

- Tachycardia except in patients on digitalis or B blockers
- Pulsus alternans (alternating strong and weak regular beats)

Respiration

- Tachypnea (shallow rapid respiration)

Auscultation

- Gallop rhythm over mitral area
- Murmurs may be heard
- Fine basal bilateral crepitation over the base of the lung

Examination in RSHF

Blood pressure

- Low systolic blood pressure

Pulse

- Tachycardia except in patients on digitalis or B blockers

Auscultation

- Gallop rhythm over tricusped area
- Murmurs may be heard

Investigations

ECG (cardiac enlargement / arrhythmias / BBB / CAD)

Chest – x rays (cardiac enlargement / pulmonary congestion / pleural effusion)

Echocardiography (cardiac enlargement / valvular lesions / low ejection fraction)

Cardiac catheterization

Investigation of the cause

Cardiac enzymes (for myocardial infarction)

CBC (for anemia)

Thyroid functions (for thyrotoxicosis)

Lipid profile (for hypercholesterolemia and high free fatty acids)

Other investigations (according to clinical findings)

Treatment

Non pharmacological treatment

Bed rest

In **semi – sitting position** to decrease venous return and decrease metabolic needs of the body

Emotional rest

(R/ Neuril 2 or 5 mg tablet thrice orally)

Or (R/ Neuril 10 mg ampoule in 100 cc saline over 30 min)

Diet

- Salt restriction
- Fluids restriction
- Small frequent meals
- Body weight reduction
- Stop smoking

Specific treatment

Diuretics

R/ Lasix 20 or 40 mg ampoule (1:2 mg per Kg per day) IV injection

R/ Aldactone 25 mg tab (2:3 mg per Kg per day) twice daily

Vasodilators

R/ Nitronal vial (10 cc added to 90 cc Glucose 5 %)

يضاف 10 سم من النيترونال الى 90 سم محلول جلوكوز 5 % علي جهاز محلول السلوسيت

يعلق الترايديل (النيترونال) بمعدل 3 ن/ق ومضاعفاتها بالسلوسيت بحيث لا يقل الضغط عن 70 / 100 مم زئبق

Digitalization

Oral route (the usual route of administration)

Initial dose (2 tablets daily for 5 days)

Maintenance dose ($\frac{1}{2}$: 2 tablets daily)

Intravenous route (in acute pulmonary oedema and rapid arrhythmias)

Initial dose ($\frac{1}{2}$: 1 mg in glucose 5 % over 30 min)

Then ($\frac{1}{2}$ mg every 6 hours till therapeutic response appears)

Then (continue with oral digitalis)

Egyptian market

R/ Lanoxin 0.25 mg tablets

R/ Lanoxin 0.5 mg ampoules

Symptomatic treatment

- Hypoxia → Oxygen administration
- Cardiac dyspnea → aminophylline administration

Treatment of the cause

e.g. Hypertension

Control hypertension (R/ Capozide tab twice or thrice daily)

Treatment of precipitating factors

e.g. Chest infection

Proper antibiotics / analgesic anti-inflammatory / expectorants

Treatment of mechanical factors

Severe valve disease → valve replacement

Pericardial effusion → Tapping

Constrictive pericarditis → pericardiectomy

Acute pulmonary edema

Etiology

Cardiogenic pulmonary edema

1. Acute LSHF
2. Acute exacerbation of chronic LSHF (MS with AF)

Non cardiogenic pulmonary edema

1. Septicemia / Pneumonia / Pancreatitis
2. Stroke / Head injury
3. Shock
4. Trauma / Burns
5. Terminal liver and renal failure
6. Inhalation of gases (e.g. chlorine)
7. Aspiration of gastric content
8. DIC

Other casues

1. Rapid aspiration of massive pleural effusion
2. Severe hypoalbuminemia

Clinical picture

1. Severe **dyspnea** at rest / and orthopnea
2. Cough with expectoration of frothy sputum may be tinged with blood
3. Generalized **bubbling** crepitations
4. Sweating and marked anxiety
5. Central cyanosis
6. Generalized **wheeze**

Clinical picture of the cause

1. Typical chest pain in acute myocardial infarction
2. Neurological manifestation in stroke

Investigation

Chest – x rays

1. Increased bronchovascular markings
2. Haziness of lung fields

Arterial blood gases

1. PO₂ (decreased)
2. PCO₂ (decreased at first / increased lately in severe cases)

Investigation of the cause

1. ECG and cardiac enzymes for acute myocardial infarction
2. CT brain for stroke

Treatment of APO

Admission

Hospitalization in the ICU (bed rest in the sitting position)

Oxygen administration (6 – 8 litres/min)

Morphine

R/ Nalufin 5 mg amp IV (to relieve anxiety and decrease sympathetic stimulation)

Diuretics

R/ Lasix 40 mg IV (repeated every ½ hour until relief)

Vasodilator IV

R/ Nitronal vial (10 cc Nitronal added to 90 cc glucose 5 %)

يضاف 10 سم من النيترونال (الترايديل) الى 90 سم محلول جلوكوز 5 % ويوصل بجهاز محلول السلوسيت

يعطى النيترونال بمعدل 3 ن/ق او مضاعفتها بحيث لا يقل الضغط عن 70/100 مم زئبق

Positive inotropics

R/ Dopamine ampoule (one ampoule over 200 cc ringer / rate = 5 drops per min)

Bronchodilator

R/ Minophylline IV (250 – 500 mg slowly)

Refractory conditions

1. Mechanical removal of fluid using phlebotomy or dialysis
2. Mechanical ventilation
3. Mechanical assistance using intra-aortic balloon counterpulsation

Myocardial infarction (MI)

Definition

Ischemic necrosis of part of the myocardium

Due to sudden and persistent cessation of blood supply

Etiology

Coronary thrombosis on top of coronary atheroma

Symptoms

Typical CHEST PAIN

As angina pain but

1. More prolonged > 20 minutes
2. More severe / More radiating
3. Not relieved by rest or sublingual nitrates
4. May occur without precipitating factors

Atypical presentation

1. Sense of indigestion
2. Atypical location of pain

Absence of pain

1. Autonomic neuropathy e.g. DIABETES
2. Disturbed conscious level
3. During anaesthesia
4. In transplanted heart

Signs

General appearance

- Pale / Sweaty / Restless

Pulse

1. Rate (Tachycardia / Bradycardia)
2. Rhythm (Arrhythmias)
3. Pulse volume (Small pulse volume due to LVF or shock)

Blood pressure

1. Initial hypertension (sympathetic over stimulation)
2. Hypotension (LVF / Shock / Increased vagal tone)

Fever

Moderate rise within 2 days of onset and may last for 1 week

Auscultation

- **S1** (Weak first heart sound)
- **S2** (Reversed splitting)
- **S3** (Flabby myocardium)
- **S4** (Decreased myocardial compliance)
- **Murmurs** (Papillary muscle necrosis)
- **Pericardial rub** (Pericarditis)

Investigations

ECG

1. Pathological Q wave
2. Raised convex ST segment
3. Inverted T wave

Cardiac enzymes

1. CPK-MB (elevated)
2. Troponin T and Troponin I (elevated)
3. LDH (Elevated)
4. Leukocytes (elevated)
5. ESR (elevated)

Echocardiography

1. Akinesia of infarcted area
2. Systolic function

Coronary angiography

Treatment of acute attack

General measures

1. Continuous ECG and hemodynamic monitoring
2. Complete bed rest
3. Complete mental rest (R/ Neuril 2 or 5 mg tablet thrice orally)
4. Oxygen inhalation to avoid hypoxia

Narcotic analgesic for pain

R/ Morphine 10 mg ampoule

One ampoule diluted in 10 cc glucose 5 % and give 2 cc every 5 min slowly IV

IV nitroglycerine

R/ Nitronal vial (10 cc Nitronal added to 90 cc glucose 5 %)

يضاف 10 سم من النيترونال (الترايديل) الى 90 سم محلول جلوكوز 5 % ويوصل بجهاز محلول السلوسيت

يعطى النيترونال بمعدل 3 ن/ق او مضاعفتها بحيث لا يقل الضغط عن 70/100 مم زئبق

Thrombolytic therapy

R/ Streptokinase 1500000 units vial

Dose 750000 units over 20 min THEN 750000 units over 40 min

Contra-indications of thrombolytic therapy

1. Active peptic ulcer
2. Intra-cranial hemorrhage
3. Cerebral stroke
4. Pregnant
5. Hypertension
6. Head injuries with in 3 months ago
7. Internal bleeding with in 3 weeks ago
8. Surgery / Trauma

Anti-platelets aggregations

4 tablets (**Aspocid 75 mg**) plus 4 tablets (**Plavix**) immediately

Anti-coagulants

R/ Heparin amp 500 units SC injection twice or thrice daily for 48:72 hours

THEN R/ Marivan tablets twice daily

Beta blockers

R/ Ateno 50 or 100 mg tablets once daily

ACE inhibitors

R/ Tritace 2.5 mg tablets once or thrice daily

Mechanical revascularization

Method

PTCA (Percutaneous Transluminal Coronary Angioplasty)

CABG (Coronary Artery Bypass Graft)

Indications

1. Patients not responding to fibrinolytic therapy
2. Patient contra-indicated to use fibrinolytic therapy

Home treatment

Non pharmacological treatment

1. Gradual return to normal activity
2. Regular exercise
3. Small frequent diets
4. Decrease body weight to its normal range
5. Stop smoking immediately

Drugs to decrease re-infarction and post-infarction angina

R/ Aspocid 75 mg tablets (قرص او قرصين بعد العشاء)

R/ Ator 10 or 20 mg tablets (قرص واحد وسط العشاء)

R/ Ateno 50 or 100 mg tablets once daily

Proper Control of

1. Proper control of **blood pressure**
2. Proper control of **DM**
3. Proper control of any systemic diseases

Atrial fibrillation

Definition

Atria beat at a rate of **400:600/min**

Ventricles respond irregularly to only some beats (physiological block)

Etiology

1. Rheumatic heart disease
2. Congenital heart diseases
3. Coronary heart diseases
4. Chest disease (pulmonary embolism / COPD)
5. Cardiomyopathy and myocarditis
6. Congestive heart failure
7. Constrictive pericarditis
8. Cardiac surgery
9. Hyperthyroidism
10. Hypertension
11. Iatrogenic (sympathomimetic drugs)
12. Idiopathic (lone AF may occur in normal persons esp. in stress or exercise)

Symptoms

Palpitations (rapid / irregular / paroxysmal or persistent)

Symptoms of low COP (fainting / dyspnea / angina / dizziness / shock)

Precipitation of (atrial thrombosis / embolization)

On examination

Pulse (rapid / irregular / pulse deficit more than 10 bpm / respond to carotid sinus massage)

Auscultation (variable intensity of S1)

Investigations

ECG

P wave (absent and replaced by irregular vibrations)

QRS (normal in shape / irregular in rhythm)

Treatment

If the patient is hemodynamically unstable

DC cardioversion should be done immediately

Hemodynamically stable and AF less than 48 hours

- Anti-coagulants should be given before DC cardioversion (R/ Marevan)
- Reversion of sinus rhythm
 1. R/ Cordarone 150 mg ampoule
 2. DC cardioversion if medical therapy fails
- Slowing ventricular response
 1. If good systolic function → R/ Inderal 10 or 40 mg tablets
 2. If not → R/ Lanoxin 0.25 mg tablets

Hemodynamically stable and AF more than 48 hours or not documented

- Anti-coagulants (R/ Marevan 1 or 3 or 5 mg)
- Slowing ventricular response
 1. If good systolic function → R/ Inderal 10 or 40 mg tablets
 2. If not → R/ Lanoxin 0.25 mg tablets

Home treatment in acute AF

R/ Cordarone 200 mg tablets twice daily

R/ Marevan 1 or 3 or 5 mg tablets once or twice daily (INR = 2:3)

R/ Inderal 10 mg tablets twice daily

Or R/ Lanoxin 0.25 mg tablets once or twice daily

Home treatment in chronic AF

R/ Marevan 1 or 3 or 5 mg tablets once or twice daily (INR = 2:3)

R/ Inderal 10 mg tablets twice daily

Or R/ Lanoxin 0.25 mg tablets once or twice daily

Modification

1. Catheter radio-frequency ablation
2. Surgical ablation

Ventricular tachycardia

Definition

Rapid regular tachycardia at a rate **more than 120/min**

Types

Sustained persists more than 30 seconds or cause hemodynamic instability

Non – sustained persists less than 30 seconds with no hemodynamic instability

Etiology

Pathological

1. Coronary artery diseases
2. Cardiomyopathy
3. Congenital heart diseases
4. Rheumatic heart diseases
5. Hypertension
6. Hyperthyroidism

Pharmacological

1. Digitalis
2. Sympathomimetic drugs
3. Some anti-arrhythmic drugs

Symptoms

Palpitation (rapid / regular / recurrent / sudden onset and offset / short duration)

Symptoms of low cardiac output (fainting / dyspnea / angina / dizziness / shock)

Sudden death (if ventricular fibrillation develops)

On examination

Pulse (regular / more than 120 bpm / no response to carotid massage)

Auscultation (variable intensity of S1 / occasional cannon wave)

Investigations

ECG

QRS (wide / deformed / rapid / regular / rate more than 120 per min)

P wave (normal in rate and shape / comes before, after or hidden by QRS)

Treatment

Hemodynamically instable VT

Immediate DC cardioversion followed by IV lignocaine (see below)

Hemodynamically stable VT

R/ Xylocard ampoule 5 ml (lignocaine 20 mg/ml)

2 mg/kg IV bolus injection followed by infusion of 1-4 mg/min

Resistant and recurrent cases

R/ Cordarone 150 mg ampoule

800:1000 mg/day for 7:21 days

Maintenance therapy

R/ Cordarone 200 mg tablets twice daily

R/ Concor 5 mg once daily

Modification

1. Catheter radio-frequency ablation of the arrhythmogenic focus
2. Surgical ablation of the arrhythmogenic focus
3. Implantable cardioverter defibrillator ICD

Cardiogenic shock

Failure of the heart to pump effectively

Etiology

1. Large myocardial infarction
2. Arrhythmias
3. Cardiomyopathy
4. Aortic valve stenosis
5. Aortic dissection
6. Coronary artery diseases

Symptoms and signs

CNS anxiety / restlessness / altered mental state

Blood pressure hypotension (systolic BP less than 90 mmHg)

Pulse rapid / weak / thready

Skin cold / clammy / mottled

Neck veins congested

Urine output oliguria

Respiratory rate rapid deep respiration

Pulmonary oedema may be present

Investigations

ECG (may show arrhythmias / ischemic heart diseases)

Echocardiography (poor ventricular function / may show the lesion)

Cardiac enzymes

CBC / ABG

Treatment

Hospitalization in CCU

Complete bed rest

Intravenous fluids (either crystalloids or colloids)

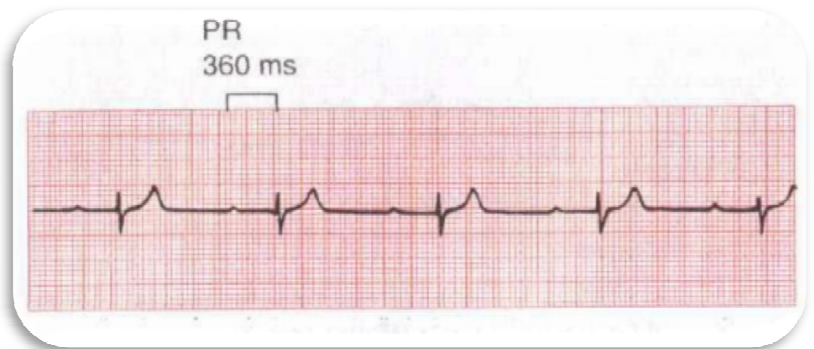
R/ **Dopamine** 200 mg ampoule

O₂ administration

Conduction and its problems

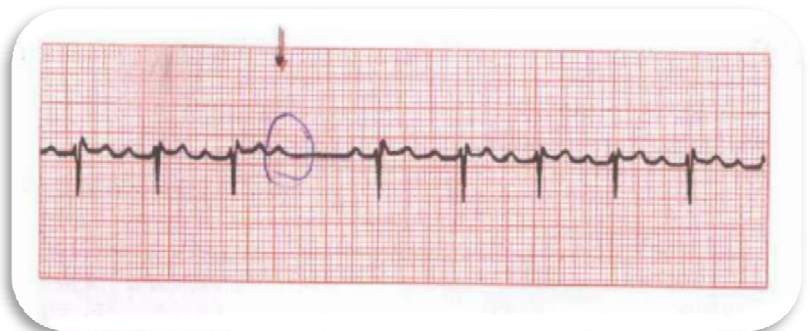
First degree heart block

1. One P wave per QRS complex
2. Prolonged PR interval (360 ms)



Second degree heart block (Mobitz 2)

1. PR intervals of the conducted beats are constant
2. One P wave is not followed
3. by QRS



Second degree heart block (Wenckebach type)

1. Progressive prolongation of PR intervals
2. One P wave is not followed by QRS complex

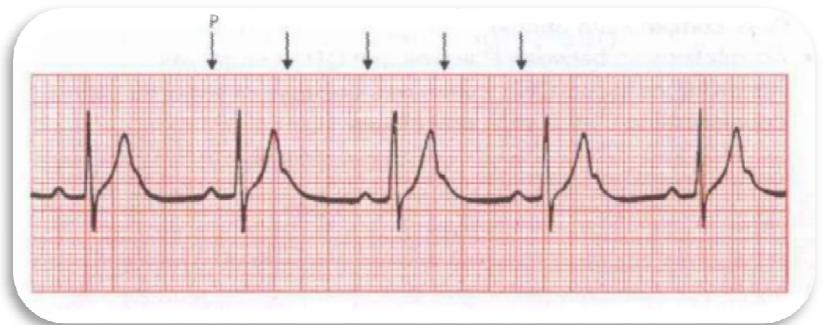


Second degree heart block 2:1 type

1. Two P waves per one QRS complex
2. PR intervals in the conducted beats are constant

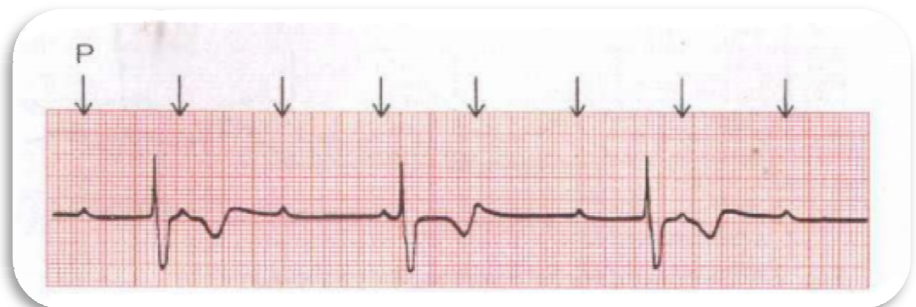


1. P waves in the T waves can be identified because of its regularity



Third degree heart block

1. P waves rate = 90/min
2. QRS rate = 36/min
3. No relation between P and QRS waves



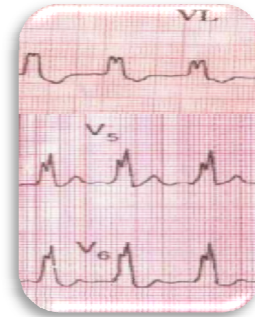
Right bundle branch block

1. RSR pattern in V_1 , V_2 and V_3
2. Wide QRS complexes



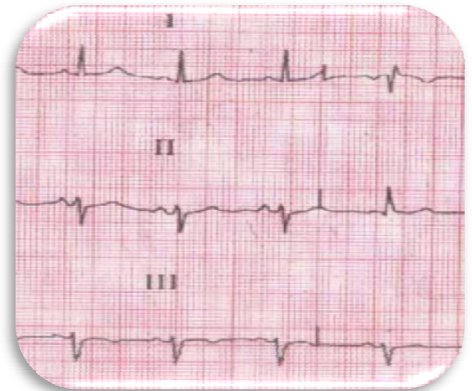
Left bundle branch block

1. M pattern in the QRS complexes in VL, V₅ and V₆
2. Wide QRS complexes



Left axis deviation

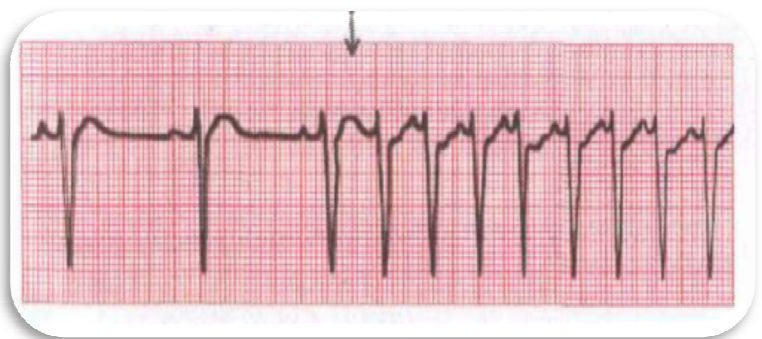
1. QRS complex is upright in lead I
2. QRS complexes are downward in lead II and lead III



Tachycardias

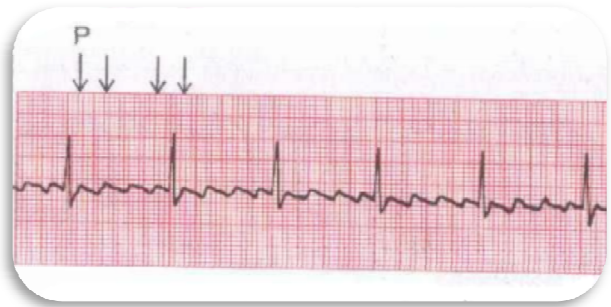
Atrial tachycardia

1. The 1st three beats are normal sinus beats
2. Then tachycardia rate = 150/min
3. P waves can be seen on the T waves of the preceding waves
4. QRS complexes are of normal shape



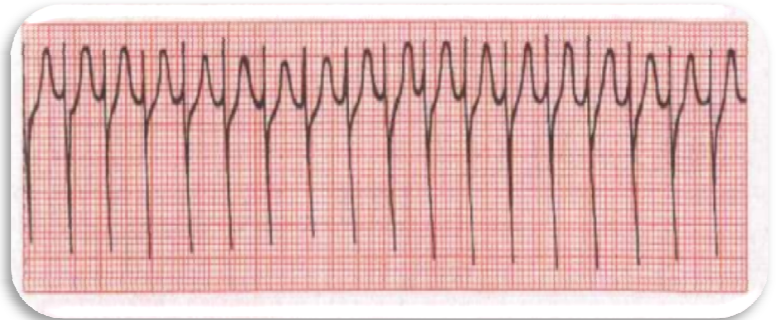
Atrial flutter

1. P waves at a rate of 300/min
2. P waves give sawtoothed appearance
3. Ventricular rate = 75/min



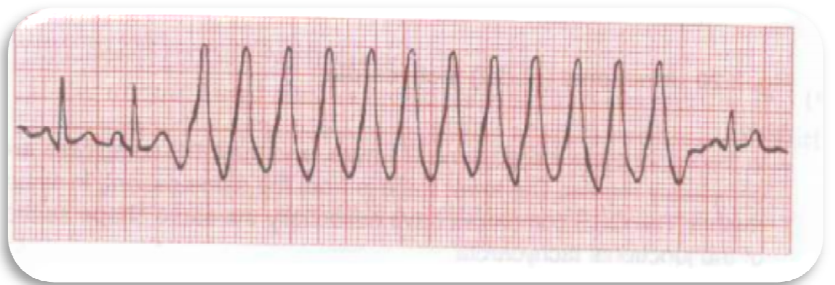
Junctional tachycardia

1. No P waves
2. QRS complexes are completely regular
3. Normal shape of QRS complexes



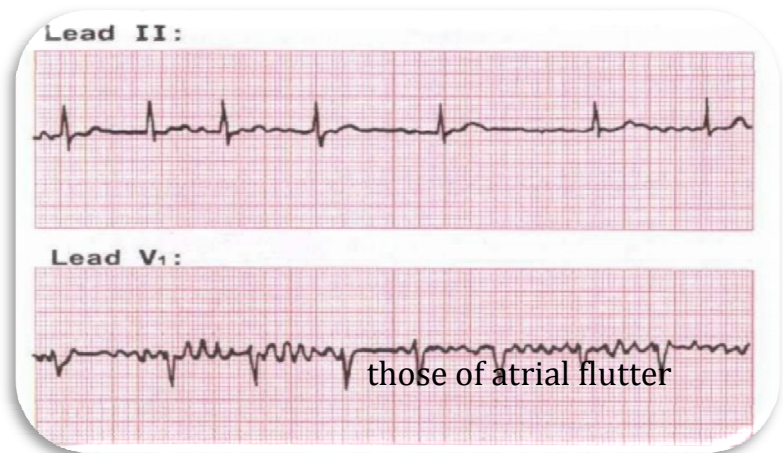
Ventricular tachycardia

1. First 2 waves are sinus beats
2. Then no P waves
3. Wide QRS complexes
4. QRS rate = 200/min



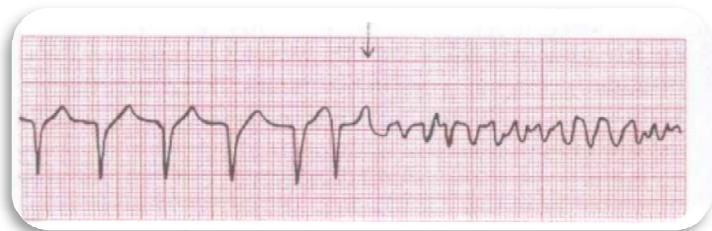
Atrial fibrillation

1. No P waves – irregular base line
2. Irregular QRS complexes
3. QRS of normal shape
4. Waves in lead V₁ resemble those of atrial flutter



Ventricular fibrillation

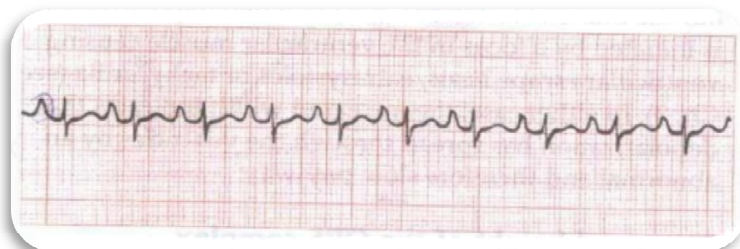
1. No QRS complexes
2. ECG is totally disorganized



Abnormal waves

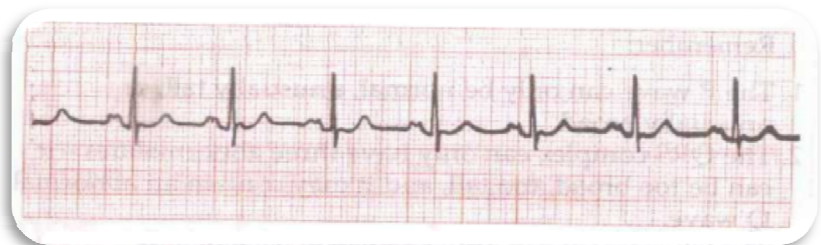
Right atrial hypertrophy

1. Tall peaked P waves



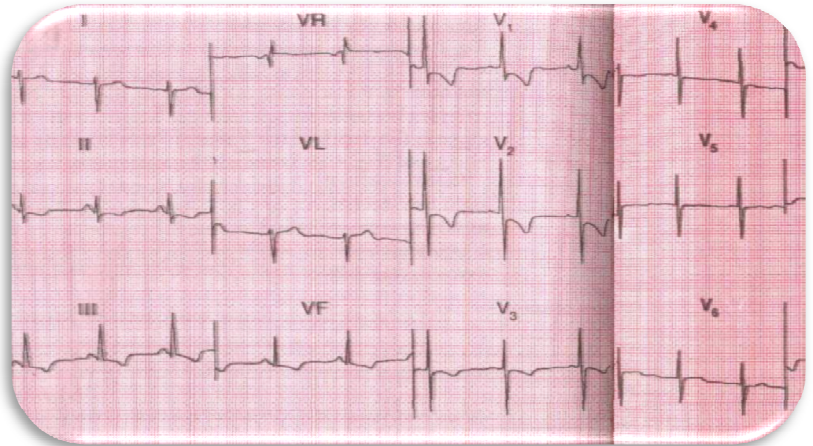
Left atrial hypertrophy

1. Wide and bifid P waves



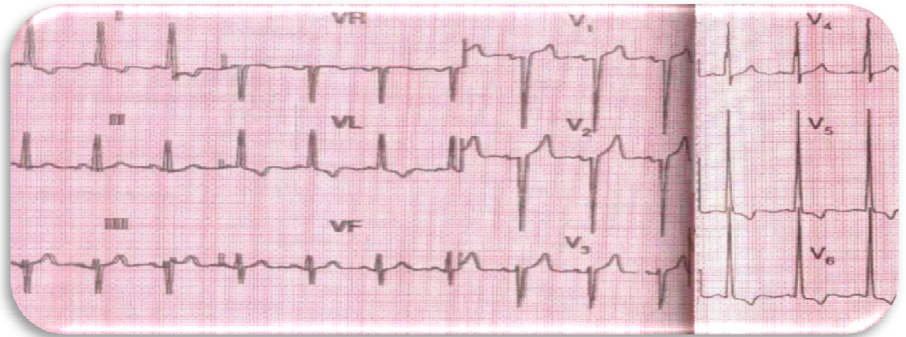
Severe right ventricular enlargement

1. Dominant R waves in lead V₁
2. Deep S wave in lead V₂
3. Inverted T waves
in leads II, III, VF, V₁₋₃
4. Flat T waves in leads V₄ and V₅



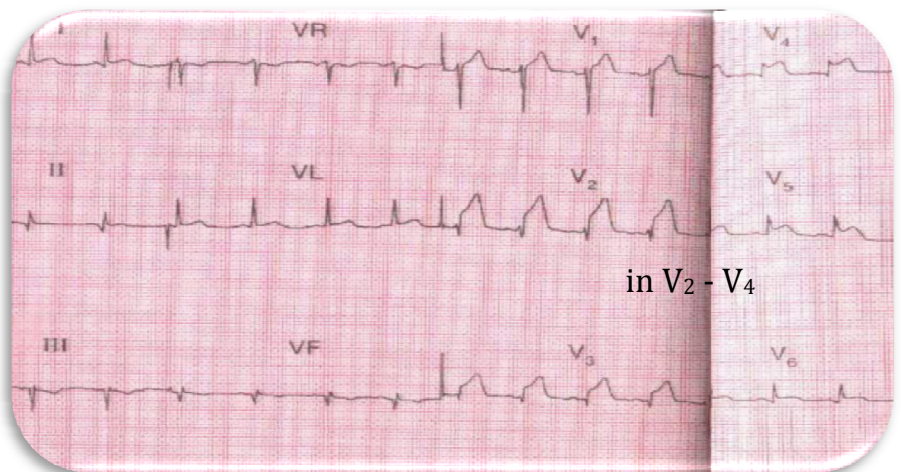
Left ventricular enlargement

1. Tall R waves in V₅ and V₆
2. Deep S waves in V₁ and V₂



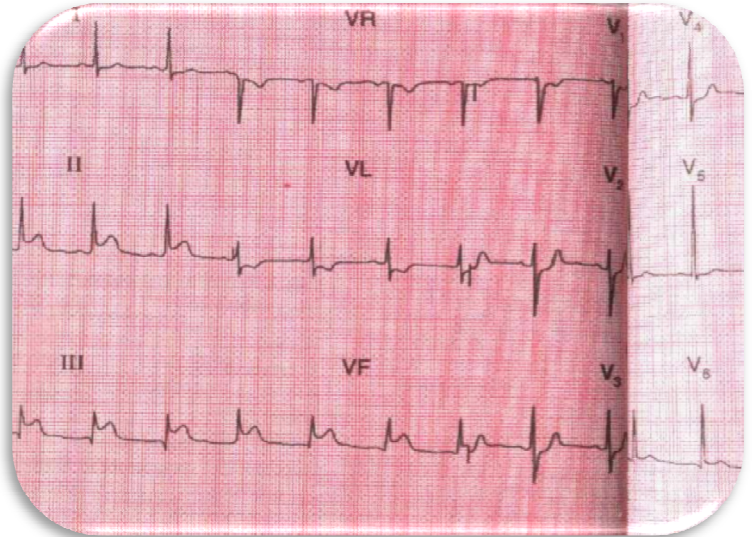
Acute anterior myocardial infarction

1. Small Q waves in V₂ - V₄
2. Raised ST segments
in V₂ - V₄



Acute inferior MI + lateral ischemia

1. Q waves in leads III and VF
2. Raised ST segments in leads II, III and VF
3. Inverted T waves in leads VL and V₁



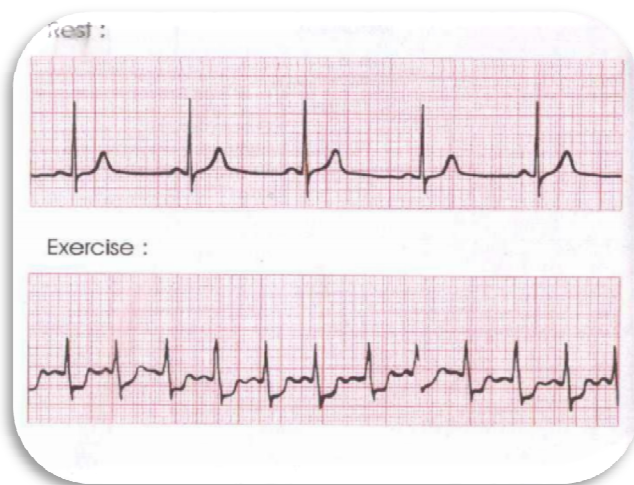
Exercise induced ischaemia

Upper trace

1. HR = 55/min
2. ST segments are isoelectric

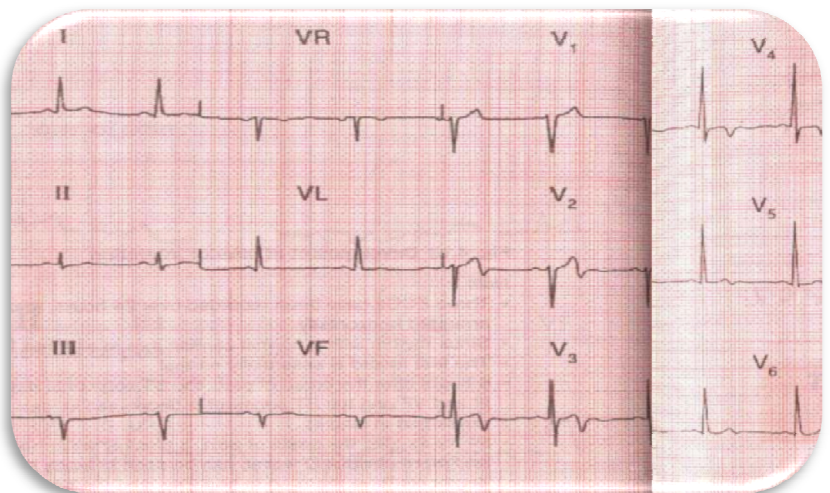
Lower trace

1. HR = 125/min
2. ST segments are depressed



Anterior non - ST seg. Elevation MI

1. Inverted T waves in V₃ and V₄
2. Biphasic T waves in V₂ and V₅



Digitalis effect

1. Downward sloping ST segments
2. Inverted T waves



Arterial Blood Gases (ABG)

Normal pH (7.35 : 7.45)

Normal PaCO₂ (35 : 45 mmHg)

Normal PaO₂ (80:100 mmHg)

Normal SaO₂ (95:100 %)

Normal HCO₃ (22:26)

CO₂ / HCO₃ Ratio

Increased $\frac{\uparrow\uparrow\uparrow \text{CO}_2}{\uparrow \text{HCO}_3}$ Respiratory acidosis

Increased $\frac{\downarrow \text{CO}_2}{\downarrow\downarrow\downarrow \text{HCO}_3}$ Metabolic acidosis

Decreased $\frac{\downarrow\downarrow\downarrow \text{CO}_2}{\downarrow \text{HCO}_3}$ Respiratory alkalosis

Decreased $\frac{\uparrow \text{CO}_2}{\uparrow\uparrow\uparrow \text{HCO}_3}$ Metabolic alkalosis

pH / PaCO₂ / HCO₃

	pH	PaCO ₂	HCO ₃
Respiratory acidosis	↓	↑	↓
Metabolic acidosis	↓	↓	↓
Respiratory alkalosis	↑	↓	↓
Metabolic alkalosis	↑	↑	↑

Anion Gap

Anion Gap = (Na + K) - (CL + HCO₃) = 10 : 18 mmol/L

Anion Gap is made of unmeasured anions (phosphates / sulphates / negatively charged proteins)

Anion Gap more than 18 mmol/L → increased unmeasured anions (e.g. lactate / salicylates)

High anion gap metabolic acidosis

- Lactic acidosis
- Ketoacidosis
- Salicylate toxicity
- End stage renal failure
- Methanol ingestion

Normal anion gap metabolic acidosis

- Diarrhea
- Isotonic saline infusion
- Early renal failure
- Renal tubular acidosis
- Acetazolamide